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ABSTRACT

Information on depreciation concepts, accounting procedures, and reporting formats in not-for-profit institutions is provided. Details are included on the requirements and implications of the Financial Accounting Standards Board's Statement of Financial Accounting Standards no. 93 (FASB 93). Following highlights of FASB 93, an overview looks at financial reporting required, areas specifically excluded, and areas not addressed by FASB 93; a history of depreciation in not-for-profit institutions; and a rationale for the key provisions of FASB 93. A glossary of general terms and terms associated with long-lived assets is featured. Other information includes: choices of depreciation methods, techniques, and procedures (sample cases and examples specifically related to depreciation of equipment and buildings); a review of major asset groups (buildings, equipment, art collections); and other issues (funding of depreciation and outline of presentations to the board of directors). Four appendices focus on types of buildings and building subsystems; sample financial statements and journal entries; detailed description of depreciation methods, techniques, and procedures; and appraisal and valuation services. Tables and a bibliography are included. (SM)

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RECOGNITION OF DEPRECIATION BY NOT-FOR-PROFIT INSTITUTIONS

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A NACUBO MONOGRAPH

RECOGNITION OF DEPRECIATION

BY NOT-FOR-PROFIT INSTITUTIONS

BY

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FOREWORD

This manual was prepared during the summer and fall of 1987 and was used initially as training material at the NACUBO Depreciation Workshop series. Its comprehensive coverage of depreciation concepts, accounting procedures, and reporting formats made it ideal for separate publication as an authoritative reference guide.

NACUBO is indebted to Professor Stephen Collins of the University of Lowell and Robert Forrester of Coopers & Lybrand for their generous contribution of the manual to us. We intend this to be the first of many publications that we produce to assist our membership in complying with new accounting standards.

CASPA L. HARRIS
Executive Vice President
NACUBO

PREFACE

In August 1987, the Financial Accounting Standards Board (FASB) adopted Statement of Financial Accounting Standards no. 93, *Recognition of Depreciation by Not-for-Profit Organizations*. With few exceptions, this statement *requires all* not-for-profit organizations to recognize the cost of depreciation, the using up of long-lived tangible assets, in general-purpose external financial statements.

For many years, generally accepted accounting principles have required all *profit-making* business enterprises to recognize depreciation on financial statements prepared for external audiences. Until now, however, such requirements did not apply universally or consistently within the not-for-profit sector. For example, health and welfare organizations, hospitals, private foundations, trade associations, museums, and libraries have generally recognized depreciation expense on at least *some* of their long-lived assets, while colleges and universities, as well as religious institutions, usually have not.

This book has been prepared for chief financial officers, controllers, chief executive officers, members of the board, and other interested parties in all types of not-for-profit organizations. It contains explanations (in detail and in summary form) of the requirements and implications of FASB 93, as well as a rationale for the statement's major provisions and some historical perspective on the issue of depreciation in the not-for-profit sector. It also includes a glossary of terms and checklists of suggested actions applicable to the major asset groups, accompanied by considerations that should be addressed by organizations at this time. Following these sections are a review of depreciation methods, procedures, and techniques and a discussion of other issues related to depreciation. Finally,

this book offers a bibliography and several useful appendixes that contain more detailed information on various aspects of this topic.

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October 1987

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EXECUTIVE SUMMARY

In August 1987, Statement of Financial Accounting Standards no. 93, *Recognition of Depreciation by Not-for-Profit Organizations,* was issued by the Financial Accounting Standards Board. According to its provisions, all not-for-profit organizations (NFPs) must recognize depreciation on their long-lived tangible assets such as buildings, equipment, and, with some exceptions, their collections of art, library books, historical treasures, and so forth. The provisions of FASB no. 93 become effective with the issuance of financial statements for fiscal years that begin after *May 15, 1988.*

What are the specific implications of this statement? Although accurate measurement of its effects will not be possible for many months or even years, the following opportunities and obligations might result from the issuance of FASB 93:

1. *Financial statements will be more comparable with those of commercial enterprises, but net assets will decrease significantly, particularly in the first year.* FASB 93 provides an opportunity for all NFPs to conform with each other, and with profit-making entities, on the accounting treatment for depreciation. The FASB requires that the beginning net asset balance be reduced *as if* recording of depreciation had been taking place all along. This change may have some impact on both fund raising and the views of other resource providers, such as public debt authorities and rating agencies.

Nonprofits, colleges, and universities will record depreciation initially in the plant fund; but impending changes in financial-statement display may eventually require that depreciation be a charge to current operating results of unrestricted net assets. Management should keep this change in mind when establishing depreciation policies.

FASB 93 will facilitate a better understanding by readers of financial statements and other interested parties of the net

capital invested in the long-lived assets of the organization and the cost of goods or services the organization provides.

2. *Policy choices are broad.* FASB 93 does not specify particular depreciation procedures, but it provides an opportunity to develop new guidelines or evaluate existing ones, not only for depreciation but for capitalization versus expensing of expenditures. These guidelines may have an impact on both the operating statement and the balance sheet. In the past, capitalization criteria have varied substantially from one organization to another, or even within the same organization from one period or set of circumstances to the next. FASB 93 does not deal with full capitalization of long-lived assets; the board assumed that capitalization was already required by generally accepted accounting principles. Some NFPs may now decide to capitalize assets that have been in their possession for some time but that have either been expensed or ignored entirely in the financial statements.

3. *FASB 93 will focus attention on funding capital renewal.* The presence of depreciation in the financial statements is likely to draw attention to the level of capital maintenance at NFPs. Management should be prepared to defend their policies regarding capital budgeting and funding of deferred maintenance to board members and other providers of resources.

4. *Fixed-asset, space management, and budget systems may need an upgrade for FASB 93.* For most NFPs, the statement also provides an opportunity to evaluate the need for new or improved fixed-asset, space-management, and operating and capital-budget systems. Many organizations may now see the desirability of formal links between or among systems that have operated independently in the past or that have not been properly developed or maintained over the years.

5. *Cost allocation and recovery procedures will improve.* Related to capitalization policies and systems development, for those organizations performing sponsored projects, FASB 93 may provide the opportunity for better documentation of depreciation charges, which could lead to increases in negotiated recovery rates. In some cases, increases in recovery could pay for systems improvements. In addition, the statement may

encourage NFPs to formalize procedures by which space and equipment costs are allocated to specific programs or departments.

6. *There will be a new emphasis on assets not previously capitalized, including art collections, historical treasures, and so forth.* Organizations with large investments in special categories of long-lived assets such as art, books, artifacts, unusual structures (for example, monuments or landmarks), and rare animals and plants have generally not depreciated such assets in the past. In addition, they may be unfamiliar with recording and accounting for these unusual asset categories. FASB 93 itself does not require capitalization; but it should be noted that the *only* assets currently qualifying for exemption from *capitalization* (under generally accepted accounting principles and Statement of Position [SOP] 78-10) are the inexhaustible collections owned by museums, art galleries, botanical gardens, libraries, and similar entities.

7. *Public institutions may be exempted.* Those public NFP organizations that follow standards of the Governmental Accounting Standards Board (GASB) are almost certain to be exempted from the requirements of FASB 93 by a pronouncement of the GASB, which is expected to be issued in the near future. GASB standards may eventually require reporting of deferred maintenance amounts and plans for dealing with them, however.

8. *FASB 93 may place added demands on organizational staff and resources.* For some NFPs, depending on the type of organization and the scope of the financial statement practices previously employed, the requirements of FASB 93 will not significantly change record-keeping practices or financial statement presentation. For the vast majority of not-for-profit organizations, however, it is safe to say that FASB 93 will increase their level of accountability and therefore necessitate the expenditure of additional time and resources.

9. *FASB 93 is only the first of several pronouncements that will affect NFPs.* A second project currently under way concerns accounting for contributions, including "collections." A display project, noted above, will most likely make NFP financial

statements look more like those of commercial enterprises. Other projects are now dealing with consolidation of related entities and with valuation of investments.

It is obvious that NFPs, largely ignored in the past by the standard-setting bodies, will no longer be in that position. NFP executives are encouraged to discuss these and other changes with their public accountants and other professional advisers.

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HOW TO USE THIS BOOK

	Controller	CFO	CEO	Board Member
Read Preface	X	X	X	X
Read Executive Summary	X	X	X	X
Review Highlights of FASB 93	X	X	X	X
Read Overview	X	X	/	/
a. Introduction				
b. Purpose of Book				
c. History of Depreciation in Not-for-Profit Institutions				
d. Rationale for Key Provisions of FASB 93				
e. Summary				
Review terms in Glossary	X	X	/	/
Read Choices of Depreciation Methods, Techniques, and Procedures	X	X	/	/
Read and prepare responses in the Review of Major Asset Groups				
a. Assess adequacy of records	X	/		
—for providing beginning balances				
—for ongoing activity				
b. Obtain appraisal if necessary	X			

Legend: X = heavier treatment; / = lighter treatment.

	Controller	CFO	CEO	Board Member
c. Make capitalization and expense adjustments if necessary	X			
d. Make disposal adjustments if necessary	X			
e. Identify exemptions from depreciation (if any)	X			
f. Identify depreciable groups	X			
g. Select depreciation methods, techniques, and procedures	X	/		
h. Perform necessary calculations	X			
i. Identify desirable policies and procedures regarding long-lived assets	X	X		
j. Discuss policies and procedures with your CPAs	X	X		
Read discussion of Other Issues				
a. Funding of Depreciation	X	X	X	/
b. Outline of Presentation to Board	X	X	/	/
Review Appendixes as needed	X	X	/	/
Review Bibliography as needed	X	X	/	/
Make explanatory presentation to the board	X	X	/	/

	Controller	CFO	CEO	Board Member
Obtain board approval for necessary items (for example, funding depreciation, changes to fixed-asset system, changes to budget procedures, disclosure, financial statement presentation, and so forth)	X	X	X	X
Implement follow-up actions as discussed with CPAs and/or approved by board				
a. Allocate costs to departments and cost centers	X	/		
b. Modify current-year financial statements and notes	X	/		
c. Modify prior-year financial statements and notes if presented	X	/		
d. Disclose fully depreciated assets	X	/		
e. Other disclosures	X	/		
f. Modify organizational records and procedures as needed	X	/		
g. Modify fixed-asset system	X	/		
h. Modify budget systems —capital —operating	X	X		

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HIGHLIGHTS OF FASB 93

In general, FASB 93 *requires* all not-for-profit organizations to *recognize depreciation* on their long-lived tangible assets.

- *Includes* landmarks, monuments, cathedrals, historical treasures, and structures used primarily as houses of worship, which had heretofore been subject to capitalization, but *exempted* from depreciation, by SOP 78-10.
- *Includes* collections owned by museums, galleries, libraries, botanical gardens, and so forth.
- *Excludes* certain *rare* works of art and historical treasures for which there is *verifiable* evidence that (1) the asset has cultural, aesthetic, or historical value worth preserving perpetually, and (2) the owner has the technological and financial ability to preserve and protect the asset's service potential and is doing so.
- *Includes* the costs, *if* capitalized, of major preservation or restoration devices or efforts, *whether or not* depreciation has been recognized on the asset being preserved or restored.
- *Excludes* immaterial items.

FASB 93 *requires* adjustment of opening balances on the financial statements for the period FASB 93 is first applied and retroactive restatement of balances for any prior years presented.

FASB 93 *requires* disclosure of depreciation expense for the period; balances of major classes of depreciable assets and the accumulated depreciation thereon; a description of the method(s) used to compute depreciation; and, for the period FASB 93 is first applied, the nature of any restatement and its effect on the change in net assets for each period presented.

FASB 93 *requires* implementation for financial statements issued for fiscal years beginning *after May 15, 1988*, with

earlier application encouraged. If comparative statements are presented, 1987 is the first year for which the ending balances should be adjusted for depreciation.

FASB 93 takes *no position* on (1) how depreciation and related information should be displayed, (2) the recognition (capitalization) of assets, or (3) issues of measurement, for example, measuring the amount of depreciation for a period. Reaffirms *existing* industry guidelines in these areas, but notes that:

- An American Institute of Certified Public Accountants (AICPA) task force is currently studying display issues.
- The FASB itself will consider requiring capitalization of inexhaustible art (or other) "collections," whether purchased or donated, as part of its current project on accounting for contributions; capitalization of *inexhaustible* collections is currently encouraged, but not required, by AICPA Statement of Position 78-10.

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OVERVIEW

A. Introduction

In August 1987, after studying the issues and completing all stages of its due process system, the Financial Accounting Standards Board adopted by unanimous vote Statement of Financial Accounting Standards no. 93, *Recognition of Depreciation by Not-for-Profit Organizations.* As the FASB notes in the summary at the beginning of Statement no. 93, this rather brief statement *requires* "all not-for-profit organizations to recognize the cost of using up long-lived tangible assets—depreciation—in general-purpose external financial statements. However, depreciation need not be recognized for *certain* works of art and *certain* historical treasures. The statement also extends to not-for-profit organizations the requirements of APB Opinion no. 12, *Omnibus Opinion—1967,* to disclose information about depreciable assets and depreciation." [*Note:* In this and other quotations contained in this book, some words or passages have been italicized by the author for the reader's benefit.]

OBSERVATION: Organizations that do not comply will probably receive a qualified opinion from their public accountants on any financial statements issued. While there may be some short-term savings or benefits associated with noncompliance, in the long run the organization may risk lack of comparability with other not-for-profit organizations and possible negative effects with respect to borrowing and fund raising. Also, it should be noted that depreciation is an estimated expense and that lack of precision, particularly in the computation of beginning accumulated depreciation balances, is not likely to be a reason for qualification.

These requirements apply to financial statements issued for fiscal years *beginning after May 15, 1988* (with earlier appli-

cation encouraged) and necessitate the *retroactive* application of the provisions of FASB 93 *as if* depreciation had been taken from the time long-lived tangible assets were first acquired or constructed.

OBSERVATION: The rapidly approaching effective date, and the encouragement of early application, suggest that all organizations should begin planning *now* for implementation of these requirements.

Although adherence to the requirements of FASB 93 will result in policy and procedural changes for many institutions, especially in the year of adoption, these changes can be implemented with a minimum of anxiety and inconvenience. This book is designed to provide the user with a discussion of the requirements and future considerations brought about by FASB 93, especially as they relate to decisions that management must now make.

OBSERVATION: Basically, management must make *three* decisions: (1) what general policies and methods should be adopted for depreciable assets; (2) how accumulated depreciation and, if necessary, asset balances should be calculated in order to comply with the retroactive requirements of FASB 93; and (3) what system modifications are needed to account for depreciable assets in the future. This book will help you in *all* of these areas.

Summarized for the reader's benefit in the three sections below are the financial reporting *requirements* of FASB 93, a list of the areas specifically *excluded* by FASB 93, and a description of some key questions *not addressed* in any way by FASB 93.

Financial Reporting Required by FASB 93

Recognition and Disclosure. "Not-for-profit organizations shall recognize the cost of using up the future economic benefits or service potentials of their *long-lived tangible assets*—depreciation—and shall disclose the following:

a. Depreciation expense for the period

b. Balances of major classes of depreciable assets, by nature or function, at the balance sheet date
c. Accumulated depreciation, either by major classes of depreciable assets or in total, at the balance sheet date
d. A general description of the method or methods used in computing depreciation with respect to major classes of depreciable assets." (par. 5)

Effective Date and Retroactive Application. "This Statement shall be effective for financial statements issued for fiscal years beginning after *May 15, 1988,* with *earlier application encouraged.* Accounting changes adopted to conform to the provisions of this Statement shall be *applied retroactively* by restating the financial statements of any *prior years presented.* This Statement shall be applied by *adjusting* the *opening net asset balance* for the earliest year presented, or if no prior years are presented, for the year this Statement is first applied. In the period that this Statement is first applied, the financial statements shall *disclose* the nature of any restatement and its effect on the change in net assets for each period presented." (par. 7)

OBSERVATION: It is suggested that the retroactive adjustment for depreciation be calculated in as simple a manner as possible, consistent with the provisions of FASB 93. For most institutions, records will be difficult to assemble and prior capital expenditures difficult to identify and/or verify, thus requiring the use of estimates and assumptions in calculating the accumulated depreciation account on a retroactive basis.

Once a satisfactory account balance for accumulated depreciation has been established, however, it may be in the institution's best interest to modify (or establish) its fixed-asset system. This system should be sufficiently detailed and responsive to meet the current and future needs of the institution, and the requirements of external bodies, with respect to budgeting, cost allocation, cost recovery, requests for external funding, financial reporting, and so forth.

OBSERVATION: Sample financial statements that provide

illustrations of appropriate display and disclosure of information are included in appendix B.

"Retroactive application of the provisions of this Statement requires *estimates* of useful lives and salvage values of all recognized long-lived tangible assets. Information that has become available *after acquisition* of the assets may be considered in making those estimates. For example, an estimate of an asset's useful life may be the sum of the number of years from acquisition to the date this Statement is adopted plus the estimated remaining years of life based on the current condition and planned use of the asset." (par. 5)

Art (or Other) "Collections," Landmarks, Historical Treasures, and so forth. Although the requirements of FASB cover the *entire* category identified as "long-lived tangible assets," considerable attention was given to the difficult area of "collections," historical treasures, and the like. The *general* treatment for these assets is described as follows: "The future economic benefits or service potentials of individual items comprising 'collections' and of buildings and other structures—including those designated as landmarks, monuments, cathedrals, or historical treasures—*are used up not only by wear and tear in intended uses but also by the continuous destructive effects of pollutants, vibrations, and so forth.* The cultural, aesthetic, or historical values of those assets can be preserved, *if at all,* only by periodic major efforts to protect, clean, and restore them, usually at significant cost. *Thus, the Board concluded that depreciation of those assets needs to be recognized."* (par. 35)

OBSERVATION: As noted in the Highlights above (and as discussed below), in FASB 93 the board deliberately *omitted* any requirements for *recognition* of *assets*. Thus, the requirement that depreciation be recognized applies *only* to those assets that have, in fact, *already* been capitalized by the entity (or which the entity *chooses* to capitalize). This is not meant to imply that an organization can avoid the requirements of FASB 93 simply by expensing all assets. With the specific exceptions described above, generally accepted accounting principles require the cap-

italization of long-lived assets. Also, as will also be noted later, certain works of art or historical treasures that can meet specified stringent requirements are *exempted* from the depreciation requirements.

In addition, the following requirement was specified by the board: "Depreciation should be recognized, of course, on any *capitalized* costs of *major preservation or restoration devices or efforts,* which provide future economic benefits or service potentials until the next expected preservation or restoration, *regardless of whether depreciation is recognized on the asset being protected or restored.*" (par. 37)

Areas Specifically Excluded by FASB 93

Certain Works of Art or Historical Treasures. "The *only* assets described in the preceding paragraph (par. 35) for which depreciation need *not* be recognized are *rare works of art and historical treasures* having a *characteristic akin to land used as a building site—their economic benefit or service potential is used up so slowly that the amount related to a particular accounting period is of no consequence.* Recognized cultural, aesthetic, or historical value and, generally, *already long existence* have established each of those assets as a member of a group of *rare* works with that characteristic. Most of them are acquired by *purchase, gift, or discovery* with *that characteristic already having been demonstrated,* and the holder or acquirer usually *takes steps to protect and preserve it,* for example, by keeping a work of art in a protective environment and limiting its use solely to display. *While that characteristic is not limited to assets with an already long existence, an asset that has come into existence relatively recently cannot be assumed to have it in the absence of the verifiable evidence described in paragraph 6.* For example, to put a painting in a protective environment is *not* by itself evidence of *cultural, aesthetic, or historical value* that is worth preserving *perpetually.*" (par. 36)

OBSERVATION: Acquisition by "discovery" refers, for example, to historical treasures (artifacts, fossils, relics,

etc.) which are located and claimed as part of an expedition. The FASB acknowledges that accounting for discoveries is still developing, but suggests that consideration be given to capitalizing and depreciating the cost of the expedition or other efforts involved in the acquisition process.

Display, Asset Recognition, and Measurement. "This Statement does *not* cover matters of financial statement *display, recognition* of assets, or *measurement*, such as how to measure the amount of depreciation to be recognized for a particular period." (summary) Each of these areas is discussed in more detail below.

Display. To further clarify its position on *display*, the board made the following statement: "The Board reaffirmed its conclusion that this Statement *need not provide additional guidance* about how depreciation expense should be displayed *because the three AICPA Audit Guides and SOP 78-10 already provide it.* For example, the *Guide for colleges and universities* says that depreciation expense related to depreciable assets comprising the physical plant is reported *neither* in the statement of current funds revenues, expenditures, and other changes *nor* in the statement of changes in unrestricted current funds balance. Rather, depreciation may be reported in a statement of changes in the balance of the investment-in-plant fund subsection of the plant funds group. *Moreover, issues of display being studied* by the AICPA task force *are separate* from issues of recognition of depreciation." (par. 43)

OBSERVATION: In paragraph 11 of FASB 93, the board cites the following *four* AICPA documents as containing the specialized principles and practices applicable to not-for-profit organizations: the *Hospital Audit Guide* (1972, 5th ed. 1985); *Audits of Voluntary Health and Welfare Organizations* (1974); *Audits of Colleges and Universities* (1973, 2nd ed. 1975); and SOP 78-10, *Accounting Principles and Reporting Practices for Certain Nonprofit Organizations* (1978). Although the board feels that display guidelines are currently provided for, it could still choose to address the issue of display more directly when the work of the AICPA task force is completed or at some other future time.

Asset Recognition. With respect to asset recognition, FASB 93 contains the following: "The Board reaffirmed its conclusion that *this Statement need not cover recognition of assets* because the four relevant AICPA pronouncements (Paragraph 11) *already require tangible assets (except 'collections') to be recognized* at *cost* if purchased or at *fair value* at date of contribution if contributed. The Board has decided to consider *recognition of 'collections,' both contributed and purchased, as part of its project on accounting for contributions.*" (par. 39)

OBSERVATION: It is likely (but obviously not certain) that capitalization, and therefore depreciation, of "collections" will eventually be required by a future FASB pronouncement. In fact, such pronouncements may affect the way in which *all* contributed assets are treated. Compliance with FASB 93 should take this possibility into consideration.

Measurement. Finally, regarding the issue of measurement, the statement contains the following paragraph: "Some respondents suggested that *historical cost* is *not* the most relevant attribute for measuring a not-for-profit organization's cost of using up long-lived assets. Ascertaining the appropriate attribute involves measurement questions that are *not unique to not-for-profit organizations*. Similar comments have been made by other respondents to various board projects. The board decided that *the question of the appropriate attribute for measuring the cost* of using up long-lived assets is a *separate matter* that, *if* considered, *should be considered as part of a larger project* applicable to *all* organizations." (par. 40)

OBSERVATION: Although holding to *historical* cost as the *attribute* to be measured, the board took no position on the depreciation *method* to be used. Thus, the organization, in consultation with its public accountants, has considerable freedom in this area. (The board has announced no new initiatives to date regarding a study of the relevant attribute.) Also, although the language in paragraphs 39 and 40 states or implies the use of *historical* cost for purchased assets, it should be noted that, for *certain* nonprofit organizations, SOP 78-10 allows other

bases to be used, such as "cost-based appraisals, insurance appraisals, replacement costs, or property tax appraisals adjusted for market." (SOP 78-10, par. 105) The SOP clearly states, however, that such alternatives should be used *only* if historical cost information is not available and *only* to establish value at the date the SOP is adopted (rather than to value subsequent additions, for example). Although alternatives to historical cost may be allowable in these specific circumstances, comparability of information with that of other organizations certainly suggests that a basis as close to historical cost as possible (for instance, *historical* cost-based appraisals) be selected.

Immaterial Items. "The provisions of this Statement need not be applied to immaterial items." (note on p. 4)

OBSERVATION: Guidelines for materiality can perhaps best be established by the entity and its public accountants working together and taking into consideration condition of records, institutional needs, requirements of external agencies, and the like.

Areas Not Addressed by FASB 93

Effect on Operations; Funding of Depreciation. It is important to understand, as noted above in the discussion of display, that FASB 93 requires only the recognition of depreciation as it would be recorded under the current provisions of the three industry audit guides and SOP 78-10. In the case of colleges and universities and certain other nonprofit organizations, this means that depreciation will be recognized in the plant fund. Thus, for *some* not-for-profit organizations, FASB 93 will have no immediate effect on regular operations or on the statement of current funds revenues, expenditures, and other changes.

OBSERVATION: This situation could change as a result of the work of the AICPA's task force on display issues, which was cited above.

Likewise, there is no discussion in FASB 93 about the *funding* of depreciation by the organization. Funding requires the inclusion of depreciation as a transfer of funds on the statement

of current funds revenues, expenditures, and other changes, *usually* combined with the actual setting aside of resources (for example, cash) in the unexpended plant funds subgroup (or the renewal and replacement funds subgroup) of the plant funds group for the purpose of making future capital expenditures.

These options are open to the organization, of course, and in fact have been employed voluntarily by some institutions for several years. They are *not*, however, required by FASB 93.

Distribution to Cost Centers. In addition, distribution of depreciation expense balances to cost centers is not mentioned in FASB 93.

OBSERVATION: Although the areas mentioned above are *not* covered in the statement, this might be an opportune time to consider them as part of institutional planning efforts. For example, with respect to funding depreciation, a board member or chief executive officer at a not-for-profit organization might logically question how the organization intends to make up the loss of capital caused by the recording of depreciation, even if the recognition appears only in the plant fund.

B. Purpose of This Book

The book has been designed to provide general background information about depreciation in not-for-profit organizations as well as more specific information about the requirements of FASB 93 and the implications of these requirements for institutional action. As indicated in the Preface, the book can be used by individuals at various levels within the organization.

OBSERVATION: For example, chief executive officers and board members may wish to concentrate on sections that summarize requirements or offer background information, while chief financial officers and controllers, in addition to examining these sections, will also need to concentrate on the checklists, appendixes, and other sections that contain more specific details.

The remaining sections of the book are summarized briefly below:

Remaining Parts of the Overview: Part C provides a brief history of depreciation as it applies to not-for-profit organizations and shows how the varying requirements within nonprofit organizations have now been standardized in FASB 93.

Part D contains a discussion of the rationale offered by the board for the key provisions contained in FASB 93, particularly those covering the theoretical basis for depreciation; the treatment of "collections" of art, historical treasures, unique structures, and so forth; and the applicability of FASB 93 to state and local governmental units.

Part E is a summary of the issues and the earlier contents.

Glossary: A list of basic terms associated with depreciation and long-lived assets.

Review of Major Asset Groups: A review of the major groups of assets covered by FASB 93 with specific attention to the steps an institution must take to comply with the requirements of the statement. In each case, appropriate steps are listed for two situations: (1) institutional records can be used to produce accurate beginning balances; and (2) institutional records are *not* usable for this purpose. Following each list of steps is a set of questions or issues to be considered or decided upon by institutional representatives in preparation for discussions with their public accountants.

> **OBSERVATION:** This section is intended to be used as a checklist and will guide you through the procedural or policy decisions that must be made.

Depreciation Methods, Techniques, and Procedures: Although straight-line depreciation is the most common method used by organizations, this section and a related appendix discuss some of the other choices available in the calculation of depreciation.

Other Issues: Discussion of related topics including the possible funding of depreciation, an outline of an explanatory presentation to members of the board, and considerations in the development of fixed-asset and budget systems.

Appendixes: More detailed information, including categories of buildings and building subsystems; sample journal entries and financial statements (including notes); and descriptions and illustrations of various depreciation methods, techniques, and procedures.

Bibliography: Additional sources of information on this topic.

C. A Brief History of Depreciation in Not-for-Profit Institutions

What little there was with respect to generally accepted accounting principles in the area of depreciation was contained in Accounting Research Bulletin (ARB) no. 43 (1953) and no. 44 (1954, revised in 1958). These ARBs stipulated that depreciation accounting, a process of *allocation* and *not* of *valuation*, should attempt to distribute the cost less salvage of a tangible asset over its estimated useful life in a *systematic* and *rational* manner. Unless there was a specific statement to the contrary in the text, the introduction to ARB no. 43 and the notes to ARB no. 44 indicated that their contents did *not* apply to nonprofit organizations.

In the 1970s, the AICPA issued three specialized industry audit guides and a statement of position, all of which covered the topic of depreciation, but not in a consistent manner. The *Hospital Audit Guide* (1972, 5th ed. 1985) and *Audits of Voluntary Health and Welfare Organizations* (1974) both required depreciation on long-lived tangible assets. On the other hand, *Audits of Colleges and Universities* (1973, 2nd ed. 1975) *permitted*, but did not require, depreciation of institutional plant assets, although it *required* depreciation on long-term tangible assets held for investment of endowment. Finally, SOP 78-10, *Accounting Principles and Reporting Practices for*

Certain Nonprofit Organizations (1978) *required* depreciation on long-lived tangible assets (*except* for landmarks, monuments, cathedrals, historical treasures, and structures used primarily as houses of worship), but it established *no effective date* for adoption of these provisions.

The board took a major step toward accepting and integrating these four documents when, in 1979 it issued Statement of Financial Accounting Standards no. 32, *Specialized Accounting and Reporting Principles and Practices in AICPA Statements of Position and Guides on Accounting and Auditing Matters.* FASB 32 designated the four above documents (and others) as preferable for purposes of implementing the provisions of Accounting Principles Board (APB) no. 20, *Accounting Changes* (1971). The board also agreed to extract the specialized principles and practices contained in these documents and issue them as FASB statements of financial accounting standards after appropriate due process procedures had been followed and after undertaking a conceptual study of not-for-profit accounting and reporting.

The board's interest in financial accounting and reporting *concepts* for the not-for-profit sector had taken its first written form at about this same time when in 1978 it published a FASB research report, *Financial Accounting in Nonbusiness Organizations*, by Robert N. Anthony. Related to this document, a discussion memorandum and exposure draft eventually led to the release of FASB Concepts Statement no. 4, *Objectives of Financial Reporting by Nonbusiness Organizations* in 1980. During the next several years, the board expanded Concepts Statement no. 3, *Elements of Financial Statements of Business Enterprises* (1980), to include not-for-profit organizations; it also reaffirmed the tentative conclusion, originally expressed in Concepts Statement no. 2, *Qualitative Characteristics of Accounting Information* (1980), that the provisions of that statement applied to not-for-profit organizations as well as to business enterprises. In addition, with a view toward amending Concepts Statement nos. 2 and 3 to include not-for-profit entities, the board issued exposure drafts and held public hearings, culminating with the issuance of Concepts Statement

no. 6, *Elements of Financial Statements*, in 1985. Concepts Statement no. 6 includes both profit-making and not-for-profit organizations within its scope and thus supersedes all of Concepts Statement no. 3 and a small portion (one paragraph and a related footnote) of Concepts Statement no. 2.

As a group, the concepts statements have provided the board with a basis for giving more specific attention to the specialized accounting principles that are unique to the not-for-profit sector. The first two examples of this attention are the project to establish standards of accounting for depreciation, which has led to the issuance of FASB 93, and the project on accounting for contributions, which is cited in FASB 93 (par. 39) in connection with the possible recognition of "collections."

D. Rationale for the Key Provisions of FASB 93

The board has provided a significant amount of supplemental information to explain the conclusions it reached in FASB 93. Most of this information appears in the two appendixes that follow the text of the statement itself. Topics that may be of particular interest to the reader, and which are covered below, include the following:

- theoretical basis for depreciation
- treatment of art (or other) "collections," historical treasures, unique structures (for example, landmarks, monuments, cathedrals)
- applicability of FASB 93 to state and local governmental units

Theoretical Basis for Depreciation

In supporting its conclusion that depreciation be recognized by not-for-profit organizations, the board discussed three theoretical bases that are traditionally used to justify depreciation: (1) depreciation is an allocation of cost, and there is a need to match expenses with revenues to produce net income; (2) depreciation is a means, however indirect, of providing for the

replacement of assets; and (3) recognition of depreciation is necessary for an organization to obtain an accurate measurement of the reduction of capital (net assets) and to ultimately reach the goal of overall capital maintenance. During the discussion, the board *rejected* the assertions of some respondents to the exposure draft that the first two bases noted above were not relevant to not-for-profit organizations. In the final analysis, however, the board rested a considerable portion of its case on the concept of capital maintenance.

Each of these three theoretical arguments will be addressed below. In preparation for this, however, an examination of some of the board's general comments about depreciation may be useful.

General Background. The board indicated in appendix B of FASB 93 that Concepts Statements 2, 4, and 6 provided the underlying concepts for requiring recognition of depreciation by not-for-profit entities. In particular, the conclusions of Concepts Statement no. 4, that information about *inflows and outflows* of resources (and about related service efforts and service accomplishments) is useful to the providers of these resources, helped to support the conclusions of FASB 93. This information is helpful in the evaluation of organizational performance or the exercise of stewardship responsibilities by management, including the custody and safekeeping of resources as well as their effective and efficient *use.*

Later in the discussion, the board begins to focus more specifically on depreciation: "A not-for-profit organization produces and distributes goods and services by using resources. . . . (par. 19) Using up assets in providing services (or otherwise) has a cost whether those assets have been acquired in prior periods or in the current period and whether acquired by paying cash, incurring liabilities, or by contribution. . . . Using up assets acquired involves a cost to the organization because the economic benefits (or service potential) used up are no longer available to the organization. That is *as true* for assets acquired *without* cost as it is for assets acquired at a cost." (par. 20)

With this by way of background, the board then discusses

each of the three theoretical bases for depreciation mentioned above.

Allocation of Cost: Matching of Revenues and Expenses. "Some respondents to the December 1986 Exposure Draft argued that depreciation often is *not relevant for not-for-profit organizations* because those organizations have no need to measure income and thus no need to 'match' expenses with related revenues. *The Board believes that is not the issue.* In Concepts Statement 6, the Board describes depreciation as a *cost of using up assets, not as a technique for 'matching'* expenses with revenues. In discussing accrual accounting and related concepts, the concepts Statement distinguishes matching of costs and revenues from allocating expenses to periods." (par. 23)

> Matching of costs and revenues is simultaneous or combined recognition of the revenues and expenses that result directly and jointly from the same transactions or other events. *In most entities, some transactions or events result simultaneously in both a revenue and one or more expenses.* The revenue and expense(s) are directly related to each other and require recognition at the same time. . . . *Many expenses, however, are not related directly to particular revenues but can be related to a period on the basis of transactions or events occurring in that period or by allocation.* Recognition of those expenses is largely independent of recognition of particular revenues, but they are deducted from particular revenues by being recognized in the same period. . . . *For example, wear and tear from use is known to be a major cause of the expense called depreciation, but the amount of depreciation caused by wear and tear in a period normally cannot be measured. Those expenses are not related directly to either specific revenues or particular periods.* Usually no traceable relationship exists, and they are recognized by allocating costs to periods in which assets are expected to be used and are related only indirectly to the revenues that are recognized in the same period. . . . (par. 23)

Depreciation As a Means of Asset Replacement. "Some re-

spondents to the Exposure Draft said that depreciation should not be an expense of a not-for-profit organization to the extent that *the related assets were, and their replacements are expected to be, funded by contributions or special assessments. . . .*" (par. 26) "*The Board concluded that whether an organization's use of an asset results in an expense does not depend on how the asset was acquired (paragraph 20) and whether and how it will be replaced. . . .*" (par. 27) "*Long-lived tangible assets provide benefits to both business enterprises and not-for-profit organizations* over several periods. Whether assets were acquired by purchase or by gift, using them up over several periods is a series of events—sacrifices of service potential—that result in costs of providing services in those periods. Failure to recognize depreciation for all or some long-lived tangible assets used denies the existence of those events and those costs. *The Board concluded that the credibility and usefulness of general-purpose financial statements will be enhanced and the comparability of financial results between entities will be improved if those events and costs are recognized when they occur.*" (par. 28)

The Need for Maintenance of Capital. The board finds its strongest support for the depreciation requirements of FASB 93 in the concept of "capital maintenance." In its discussion of capital maintenance, appendix B states: "Concepts Statement 6 also indicates why an organization's using up of its assets is significant and why information about it is needed." (par. 24)

> Although not-for-profit organizations do not have ownership interests or profit in the same sense as business enterprises, they nonetheless need a concept of capital maintenance or its equivalent to reflect the relation between inflows and outflows of resources during a period. The activities of an organization during a period may draw upon resources received in past periods or may add resources that can be used in future periods.
>
> *Unless a not-for-profit organization maintains its net assets, its ability to continue to provide services dwindles;* either future resource providers must make up the defi-

ciency or services to future beneficiaries will decline. For example, use of an asset such as a building to provide goods or services to beneficiaries consumes part of the future economic benefits or service potential constituting the asset, and that decrease in future economic benefits is one of the costs (expenses) of using the asset for that purpose. *The organization's net assets decrease as it uses up an asset unless its revenues and gains at least equal its expenses and losses, including the cost of consuming part of the asset during the period (depreciation). Even if that organization plans to replace the asset through future contributions from donors,* and probably will be able to do so, *it has not maintained its net assets during the current period.* (par. 24)

"Those concepts reflect that a fair assessment of the costs of efforts expended is necessary to evaluate the results of economic activity that not-for-profit organizations undertake. *Depreciation is an essential part of measuring the costs of services provided during a period. Omitting depreciation produces results that do not reflect all costs of services provided.* That omission can result in a misunderstanding of the economics of providing services and may contribute to inefficiencies. *The Board concluded that the potential cost of omission is too great and that depreciation should be recognized for all assets in use."* (par. 25)

These arguments are difficult to refute, even in the case of not-for-profit organizations. It is, therefore, not surprising that the board seemed to rely so heavily on the concept of capital maintenance in justifying the depreciation requirements of FASB 93.

Treatment of Art (or Other) "Collections," Historical Treasures, and Unique Structures

It is clear from the text of FASB 93 that the board is taking a much more stringent position than has been taken in the past with respect to depreciating art or other "collections," historical treasures, and certain unique structures (for example,

landmarks, monuments, cathedrals, and structures used primarily as houses of worship). FASB 93 contains *no* requirement that assets *be* capitalized, but it emphasizes generally accepted accounting principles and accepts current industry guidelines (as contained in the three specialized industry audit guides and SOP 78-10 cited earlier) that require capitalization, and then imposes depreciation requirements on these capitalized assets in all but the most specialized situations.

Furthermore, it indicates that it intends to study the possibility of requiring capitalization of art or other "collections," whether acquired by purchase or by gift, as part of its current project on accounting for contributions.

> **OBSERVATION:** *Inexhaustible* "collections," such as *some* of those which might be found in museums, libraries, botanical gardens, and galleries, are the *only* tangible assets *not* currently *required* to be capitalized by the aforementioned four AICPA pronouncements. According to SOP 78-10, if they are not capitalized they should appear on the balance sheet with no dollar amount shown but with a reference to an explanatory footnote.

In isolating the narrow category of assets to be *exempted* from depreciation, the board makes the following statement: "Consistent with the accepted practice for land used as a building site, depreciation need *not* be recognized on *individual* works of art or historical treasures whose economic benefit or service potential is used up so *slowly* that their estimated useful lives are *extraordinarily long*. A work of art or historical treasure shall be deemed to have that characteristic *only* if *verifiable* evidence exists demonstrating that (a) the asset individually has cultural, aesthetic, or historical value that is worth preserving *perpetually* and (b) the holder has the *technological* and *financial ability* to protect and preserve *essentially undiminished* the *service potential* of the asset and *is doing that*." (par. 6) In order to clarify what is meant by the word "verifiable" in paragraph 6, the board provides a footnote and paraphrases FASB Concepts Statement no. 2 as follows: "Verifiability means that several measurers or observers are likely to obtain essentially the same measure or conclude that

a description of an item faithfully represents what it purports to represent." (footnote to par. 6)

In appendix B of FASB 93, as further indication that exemption is likely to apply only to a limited number of assets, and only to *some* assets (as opposed to all assets) within a particular category, the board provides the following comment: "In *rejecting* assertions that specified *groups* of assets are not exhaustible and need not be depreciated, the Board observed that *simply designating a structure or other object* as, for example, a landmark or work of art, *or using it for a particular purpose*, for example, as a house of worship, *does not preclude its service potential from being used up over time. That observation also applies to "collections"* as the term is used in paragraphs 113–15 of SOP 78-10 *because it is a broad and imprecise term that covers a variety of assets that differ from each other in how and at what rate their economic benefits or service potentials are used up.*" (par. 32)

The board also offers general guidance to nonprofit organizations that are now faced with requirements for the recognition of depreciation, and suggests once again that many assets previously exempted from depreciation may no longer qualify: "The Board reaffirms its conclusion that *each organization needs to consider the characteristics of individual assets in making the estimates necessary to determine the amount of depreciation to be recognized.* Measuring the extent to which the future economic benefits or service potential of a particular asset is used up during a period or in a particular use requires *estimates of salvage values and useful lives* and requires the *exercise of judgment considering all the facts and circumstances. That estimation and evaluation process is not unique to particular assets or particular kinds of entities.*" (par. 33)

OBSERVATION: It is in light of these excerpts, together with the paragraphs cited earlier, that decisions on depreciation of art or other "collections," historical treasures, and unique structures will need to be made. The experience and advice of your public accountant, together with the expertise of personnel within your organization, should be particularly valuable in this process.

Applicability of FASB 93 to State and Local Governmental Units

Some respondents to the exposure draft raised questions about the applicability of the provisions of FASB 93 to state and local governmental units or suggested that such units be specifically exempted by the board until the results of certain projects of the Governmental Accounting Standards Board are known. As of the date of issuance of FASB 93, the board made it clear that, for the time being at least, state and local governmental units were definitely governed by FASB 93: "Under the *Agreement Concerning the Structure for a Governmental Accounting Standards Board (GASB)*, dated January 16, 1984, 'generally accepted accounting principles applicable to separately issued general purpose financial statements of certain entities or activities in the public sector should be guided by standards of the FASB *except* in circumstances where the *GASB* has issued a pronouncement applicable to such entities or activities. Those entities and activities include utilities, authorities, hospitals, colleges and universities, and pension plans' (4(g)). Accordingly, because of this agreement the Board concluded that no action in respect of governmental units is necessary or appropriate." (par. 45)

OBSERVATION: Since FASB 93 was issued, GASB has issued an exposure draft of a standard that would *exempt* state and local governmental units from the requirements of FASB 93, though they could adopt its provisions. It seems quite likely that this exposure draft will result in the issuance of a GASB standard that formalizes these exemption provisions.

E. Summary

The depreciation requirements of FASB 93 are likely to have a significant effect on accounting sysems of most not-for-profit organizations as well as on their financial statements. Records at some entities may enable management to depreciate assets, or asset components, and even associate the cost with various

operating functions if desired. At other entities, however, to estimate original cost it may be necessary to appraise buildings or other assets at current value and "trend bank" to the date of acquisition or construction to achieve a historical-cost-based amount.

In some cases, ledgers may contain only the composite assets added in a particular "vintage" year. If so, calculation of composite lives may be necessary. For future asset additions, nonprofit organizations may need to assemble relevant documentation (for example, contractors' invoices, job cost cards, and vendor invoices) to ensure that components or other capitalized items are recorded properly and depreciated over an appropriate life. Procedures for capitalizing interest, if material, may need refinement. Institutional decisions on when to capitalize and when to expense may need to be made, along with decisions on possible recognition of assets that the organization has not previously capitalized or assets (for instance, "collections") for which capitalization is not currently required.

In addition, the nature of certain assets—landmarks, monuments, cathedrals, historical treasures, works of art, rare books, and the like—may create practical difficulties for depreciation. Both the decision on whether an asset qualifies to be exempted from the depreciation requirements of FASB 93—and, if not, the estimation of future economic benefits or service potential of a particular asset—will require the exercise of judgment after considering all the facts and circumstances.

Finally, the development or modification of an asset system within an organization raises questions about the level of sophistication desired, the cost of implementation and maintenance, current and future financial statement display requirements, and the possible linking of asset data with other existing (or desired) organizational activities (for example, budgeting, cost accounting/allocation, and cost recovery). Other areas involving institutional discretion, such as the possibility of funding depreciation, will also need to be addressed.

Whatever the needs of the organization might be, however, this book will allow the user to consider the issues logically and to make decisions that will fulfill the requirements of

FASB 93 and meet the institution's short-term and long-term goals. A number of not-for-profit entities (including those [for example, colleges and universities] where depreciation was *optional*) have been recording, and in some cases funding, depreciation for several years. Their experiences, together with the resources of professional organizations like NAIS and NACUBO and public accounting firms serving the nonprofit sector, should be of great assistance in helping institutions make a smooth transition to these new depreciation provisions.

5

GLOSSARY OF TERMS

Note: Users of this glossary may find, after reviewing certain terms, that they are more comfortable with definitions that are somewhat different. This should create no real difficulties as long as all affected parties at the organization agree on common terminology.

In addition, the columns on the right side of the page show only *three* asset categories (buildings; equipment; and art [or other] objects, and historical treasures) to conform to the three groups that are covered in detail within this book. Other asset categories are certainly possible.

General Terms

Asset—Something of value owned by an entity or, more formally, probable future economic benefits obtained or controlled by a particular entity as a result of past transactions. Assets can be classified into several categories; *long-lived* assets are those whose benefits are expected to be received over at least several years.

Capitalize—To record an expenditure or contribution that may benefit a future period as an asset rather than to treat the expenditure as an expense of the period in which it occurs. In general, expenditures subsequent to acquisiton of the asset are capitalized only if they are *material* in amount and if they meet at least one of the following three conditions: (1) the useful life the asset would have had without the expenditure is increased; (2) the *quantity* of units/services produced from the asset is increased; (3) the *quality* of units/services produced from the asset is enhanced.

Depreciation—An expense that results from the process of

allocating the cost of certain long-lived assets to the periods of benefit (that is, the useful life). Although expenses are normally charged against revenue from operations, FASB 93 does not specify this treatment. Thus, not-for-profit organizations have other options such as charging the depreciation expense directly against the plant fund balance.

Expense—An amount which reflects the depletion of an asset in connection with the production of revenue or the execution of other activities that are a part of the entity's operations. Depreciation is an example of an expense.

Terms Associated with Long-Lived Assets

	Probable Accounting Treatment (if applicable)			
	Capitalize			*Expense*
	Building	Equipment	Art	
Alteration—A change in the internal arrangement or other physical characteristics of an existing asset so that it may be effectively used for its *newly* designated purposes. Example: Changing classroom space into offices.	X	X		
Discovery Costs—Expenditures associated with locating and acquiring long-lived assets that enhance the entity's ability to conduct its operations. Example: The materials, labor, and travel costs associated with an archaeological expedition that results in the procurement of museum artifacts.			X	X

	Probable Accounting Treatment (if applicable)			
	Capitalize			*Expense*
	Building	Equipment	Art	
Maintenance—The recurrent, day-to-day periodic or scheduled work required to preserve or immediately restore a facility to such condition that it can be effectively used for its designed purpose. It includes work done to prevent damage to a facility that would be more costly to restore once damage took place. Examples: Custodial services; fixing a leaky faucet.				X
New Construction — The erection of a new asset or the addition, expansion, or extension of an existing asset that adds to its overall external dimensions. Example: Erecting a new wing for a building.	X	X		
Preservation/Restoration Costs—Expenditures associated with maintaining special assets in, or returning them to, a level of quality as close to the original as possible. Example: Returning a painting or antique to its former level of beauty or acting to prevent any further deterioration.			X	X

	Probable Accounting Treatment (if applicable)			
	Capitalize			*Expense*
	Building	Equipment	Art	
Renovation—The total or partial *upgrading* of a facility to higher standards of quality or efficiency than originally existed. Example: The transition of an old research laboratory into one with state-of-the-art equipment, lighting, or other subsystems.	X			
Repair (sometimes known as Renewal and Replacement)—The restoration of a facility to such condition that it may be effectively utilized for its *currently* assigned purpose. The repair is done by overhaul or replacement of major constituent parts that have deteriorated by action of the elements or usage. The deterioration has not been corrected through maintenance. Examples: Replacement of old or broken windows with a new thermal variety; replacement of an old transmission on a motor vehicle.	X	X		
Subsystem (also known as a component)—A definable subdivision of a building that is sometimes separately				

	Probable Accounting Treatment (if applicable)			
	Capitalize			*Expense*
	Building	Equipment	Art	
identified for record-keeping purposes. Examples: Plumbing, electrical system, roofing, interior finishings, and HVAC (heating, ventilating, and air conditioning).	X			

It may be difficult to avoid confusing some of the above terms, especially repair (renewal and replacement), renovation, and alteration. For example, an alteration (change in use of a facility) may include repair activity if deteriorated components are returned to their original condition (or a better condition) as a part of the change. On the other hand, a renovation involves an improvement that has not been dictated by deterioration and thus would not include repair within its definition, although subsequent deterioration of a renovated facility may require repair activity.

Sources: Association of Physical Plant Administrators of Universities and Colleges. *Facilities Management: A Manual for Plant Administration* (Washington, D.C., 1984); Davidson, S., C. Stickney, and R. Weil. *Accounting: The Language of Business* (Sun Lakes, Ariz.: Horton, 1987); Kieso, D. and J. Weygandt. *Intermediate Accounting*, 5th ed. (New York: Wiley, 1986).

6

CHOICES OF DEPRECIATION METHODS, TECHNIQUES, AND PROCEDURES

Generally accepted accounting principles (GAAP) for depreciation require a "systematic and rational" allocation of plant costs over the life of the plant. GAAP does not necessarily imply that each accounting period during this life would receive an equal share of the cost. It is virtually impossible to determine the exact extent of depreciation that occurs in any one period, since depreciation is influenced by many factors—wear and tear, deterioration, technological and functional obsolescence, storm damage, federal and other regulations, and changes in programs. The plant accountant and his or her independent auditor must be content with a reasonable allocation of plant costs.

Depreciation expense has been determined in many ways. Some may be classified as a distribution of the cost in a "systematic and rational manner" (to quote from the definition given by the AICPA), but some do not qualify under these criteria.

Some of the methods that would *not* immediately qualify as systematic or rational include the following:

1. Charging to expense a set percentage of the annual budget.
2. Arbitrary lum-sum charges as estimated by management.
3. Charging the cost of property at the time it is retired.
4. Charging the cost of replacement property at the time the original property is retired.

It has been pointed out previously that the major force motivating depreciation accounting is maintenance of financial

capital. Although there is much to be said in favor of each of these methods, depending on the particular situation involved, there may be a division of opinion among the experts as to whether or not the above systems do reliably and consistently serve this purpose. The consensus at the present time is that they do not. Other systems distribute the accounting charge in a manner that is undoubtedly both rational and systematic.

A little analysis, however, reveals that each of the ways of accounting for depreciation is actually a depreciation system made up of three intersecting, interrelated, or interdependent elements. These three elements may be characterized as methods, techniques, and procedures. The fact that each depreciation system is composed of three elements suggests that any depreciation system could be represented graphically by a three-dimensional model and that the most convenient form of such a model is the simple cube.

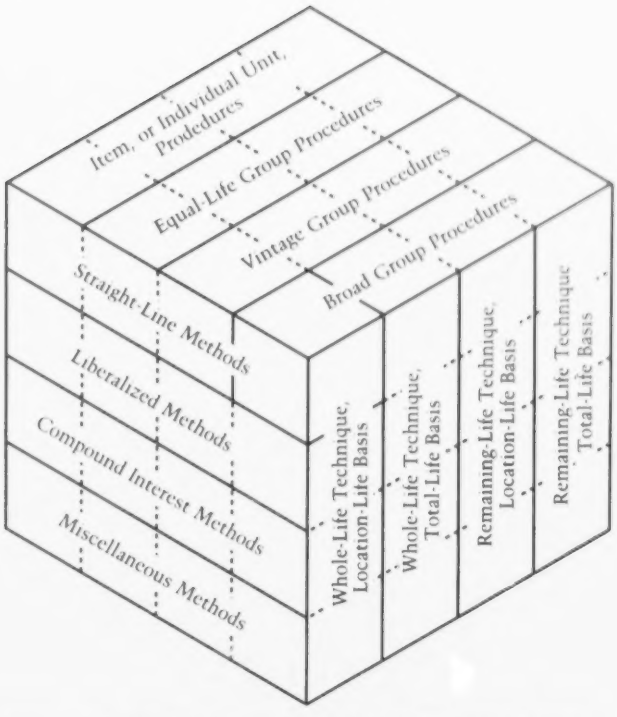
We can identify some of the methods, techniques, and procedures as follows (refer to appendix C for more detail on each of the three categories below, including examples):

Methods: Straight-line method, liberalized methods, compound interest methods, and miscellaneous methods.

Techniques: Whole-life technique, location-life basis; whole-life technique, total-life basis; remaining-life technique, location-life basis; remaining-life technique, total-life basis.

Procedures: Item, or individual unit procedure; equal-life group procedure; vintage group procedure; and broad group procedure.

In making a depreciation study the institution always chooses some combination of the three basic components of a depreciation system or uses a choice previously made. One might decide to use the system illustrated in the small cube: the double-declining-balance method, the equal-life group procedure, and the remaining-life technique on the location-life basis. The selection of method, technique, and procedure is not, or should not be, arbitrary. The choice of each and the acceptability of the combination depends on judgment of what



Source: American Gas Association and Edison Electric Institute.

is proper in the circumstances, considering the measurement of income, conservation of investment, practical feasibility, and other factors.

Source for above text: American Gas Association and Edison Electric Institute, *An Introduction to Depreciation of Public Utility Plant and Plant of Other Industries*, 1975.

EXHIBIT 1
Summary of Depreciation Methods, Techniques, and Procedures

Methods, Techniques, and Procedures	Simple Description	Advantages	Disadvantages	Likely Uses
Methods				
Staight-line	Spreads depreciation equally over the life of the assets.	Most widely used. Easy to understand.	No easy way to account for retirements. May not match actual life history, which may be intense at start.	A reasonable estimate for most applications.
Accelerated • Declining balance • Sum of years' digits	Greater depreciation at the start of life, less at the end.	Accelerates recovery. May approximate life cycle of technological plant.	Requires item or vintage records.	Research equipment, to recognize short, intense, state-of-the-art use.
Compound interest or annuity	Calculated as if a fund were being set aside; assumed interest on the fund is added to the annual charge. The annual expense grows.	May approximate actual expiration of capital—little at start, much at end.	Slows recovery. Requires detailed records to calculate.	Buildings where additions are unlikely. No change from current practice for those organizations that write assets off as related mortgage debt is repaid.

Miscellaneous methods:				
• Percent of budget	Single amount, perhaps including both depreciation and maintenance.	Easy to budget.	Theoretically unsound: related to budget, not to asset.	Single-function building.
• Units of production	Single amount taken as expense when asset is used in production of particular units.	Easy to understand.	Difficult to determine number of units in life.	Vehicles-mileage.
• Reitrement accounting	Fixed asset account changed at time of retirement: • for original cost of asset, or • for replacement cost of asset	No change from method now used by universities and some nonprofits.	Does not measure expiration of capital. Must keep good records of retirements.	Equipment.
• Physical observation or engineering estimates	Difference between periodic observations of required maintenance is charged to expense.	Direct measure of expiration of physical capital.	Not systematic, subject to annual judgment. Not necessarily a measure of expiration of financial capital.	Campus buildings with deferred maintenance.
Techniques				
Whole-life	Spreads depreciation over entire life; in the event that estimate of useful life changes, the new life is substituted for the old.	Easy to understand.	Life must be reviewed frequently to minimize accumulation of excesses or deficiencies.	Assets for which a change in estimated life is not expected.

EXHIBIT 1 (*cont.*)

Methods, Techniques, and Procedures	Simple Description	Advantages	Disadvantages	Likely Uses
Remaining life	Spreads unrecovered cost over the remaining life.	May be used with item or group procedure. Accommodates changes in lives. Consistent with implementation where there has been no previous depreciation.	Estimates of lives must be reviewed periodically.	Campus buildings.
Location life	Depreciates a portion of cost over the life of an asset in each location during its life. Installation cost must be depreciated over life in each location.	Accommodates patterns of use that reflect multiple uses throughout the life of an asset.	Requires unit records.	Research equipment that is used for state-of-the-art research for some time then switched to classroom use for a longer period.

Procedures				
Item or unit	Separate records for each item or unit.	Accurate, simple to apply and understand.	Burdensome record keeping. No smoothing of retirements, write-off on early retirement.	For a few large, homogenous items, e.g., an NMR unit. For groups of equipment where detailed records are kept for regulatory purposes.
Equal-life group	Segregates base into groups of equal life expectancy.	Generally recovers cost of each element over its useful life.	Componentization study necessary to establish groups.	Componentized research buildings.
Vintage group	Individual lives established for units installed in particular years.	Somewhat simpler than item or equal-life	May be hard to predict a composite life. Requires more records than equal life.	Where similar types of additions are made each year, e.g., a large group of dormitories, where major maintenance is cycled.
Broad group	Average life of all units performing a similar function without regard to distinguishing characteristics within the group.	Record keeping is simple where large numbers of units are involved.	Application requires clearly thought-out theory.	Entire groups of assets where functional life is similar, e.g., electric power plants. Groups of many similar items, e.g., phones.

Examples of Depreciation Methods, Techniques, and Procedures

Some examples of how choices of depreciation methods, techniques, and procedures might be made by not-for-profit organizations under different sets of circumstances are given below. See appendix C for more detailed information/illustrations regarding depreciation methods, techniques, and procedures.

Case A: A relatively new multimillion dollar science/research center of a college/hospital; records are in good condition and there are opportunities for federal cost recoveries.

In this case, the institution might choose to depreciate the building over its remaining life (for example, 50 years) on a straight-line basis, while equipment is grouped by type and depreciated over a shorter life using an accelerated method (for example, double-declining-balance) because of technological obsolescence and the possibility of federal cost recovery.

Case B: The entire physical plant of a small library with records in poor condition and little or no attention to capitalization and depreciation in the past.

In this case, a "quick fix" for the retroactive adjustment might involve using a current appraisal for building, equipment, and books trended back to historical cost, with straight-line depreciation applied from that time to the current period. From now on, more detailed records will be maintained for building and equipment, perhaps tied to budgeting for building renewals and replacements or new equipment acquisitions. The choice of depreciation method is open. For books, straight-line depreciation could be continued using broad vintage groups, or some consideration could be given to using the retirement or replacement methods.

Case C: A museum with a reasonable number of valuable holdings, including works of art or other objects. Prior capitalization and depreciation of the building has been accurate,

but not much attention has been given to capitalization and depreciation of the holdings because of the provisions of SOP 78-10 and/or inclusion of holdings in the "collections" category. *Note:* Capitalization of collections is not currently required, but is under review as part of the FASB's contributions project.

In this case, the museum might choose to voluntarily capitalize the holdings using the best estimate/appraisal of historical cost; determine which (if any) qualify for exemption from depreciation; and depreciate the others over their remaining life after making the retroactive calculation for purposes of recording accumulated depreciation.

Case D: A 100-year-old classroom building at a college, appraised 25 years ago and capitalized then at an amount reflecting replacement cost (historical cost not available); depreciated since then.

In this case, many components of the building may now be fully depreciated. Continue as is or consider writing off the remainder, since original historical cost is undoubtedly fully allocated by now.

Depreciation of Equipment and Buildings

The following section combines these choices in examples for the two asset classes that institutions are most likely to be concerned about—equipment and buildings. Management will have two choices to make: first, for June 30, 1987—the beginning balance; and second, for the future.

Equipment

Let's assume that an institution has only a single figure for equipment and furniture and fixtures. The first step is to establish the vintages over which that amount accumulated. This involves a search of the annual records, which shouldn't be difficult since they have been audited. The next step is to estimate the useful life of the equipment. If there are no

individual records, management will have to chose an overall life based on the mix of equipment at the institution. Once management has established the average useful life, it will need to estimate accumulated depreciation and an annual charge. In theory, the institution would want to use what the trade calls "a survivor curve." Another alternative is to use the federal use allowance figures. Institutions may also wish to consider a physical count.

These survivor curves (see exhibit 2) come from the joint publication of the American Gas Association and The Edison Electrical Institute. They originated with a pioneer in depreciation—Iowa State University.

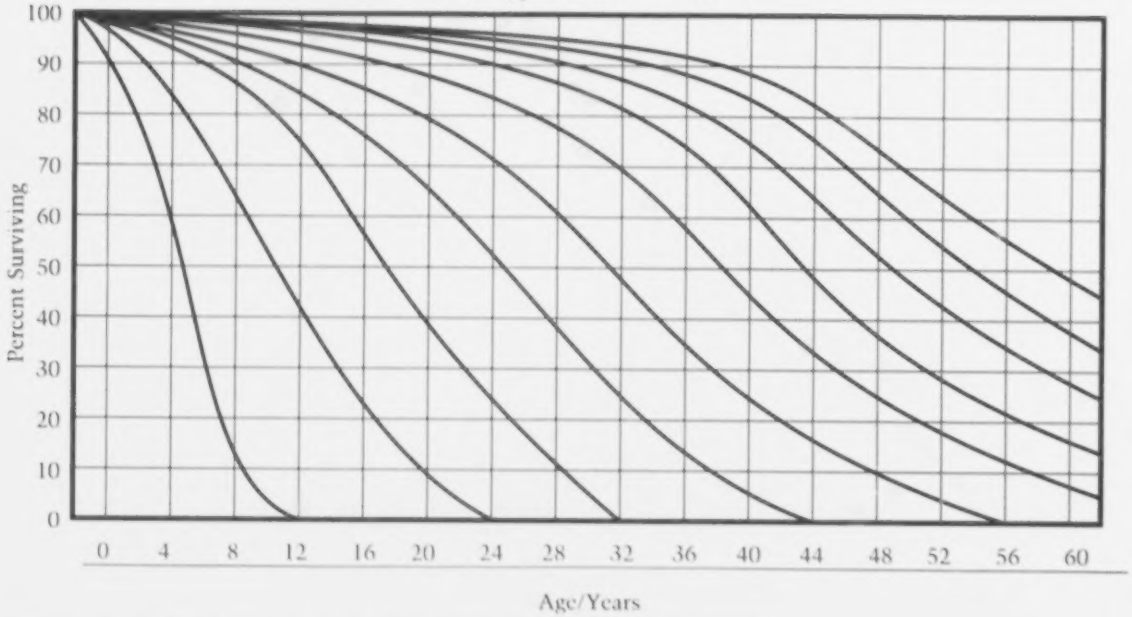
Let's look at the five-year curve and see how it works. At the end of, say, two years, 95 percent of the items that started are still surviving. At the end of four years, it's more like 65 percent. After six years, only 30 percent remain, and the rest stretch out to about 12 years.

Assume that an institution adopts the ten-year average life for equipment. With a survivor curve like this an institution can establish accumulated and annual depreciation (see exhibit 3).

Assume that the institution added $100 of equipment every year over the past 20. Of the $100 added in 1969, only $2.50 is left. But among the units added in 1988, all are survivors. The total equipment over the 20-year period is $2,000, and the remaining units are worth $950. That means that $1,050 of value has expired and should be recorded as accumulated depreciation. If management has kept track of item records, of course, it could remove those items as they're retired. Assuming that it hasn't, it needs an estimate of the accumulated depreciation figure, and more importantly, an annual charge, from the vintage records. In this case, it could be assumed that there were ten years to go on that $950 net value. The institution would depreciate $95 a year.

More common is something that might be called the "rolling vintage" method. Its results approximate the survivor curve. In this case (see exhibit 4) the institution added $100 in 1980, $110 in 1981, and so on. In 1987, then, there were eight active vintages, if one assumes an eight-year life. The total assets are

EXHIBIT 2
L_2 Type Survivor Curve



Source: Bulletin 125, Iowa Engineering Experiment Station, Iowa State University.

EXHIBIT 3
Accumulated and Annual Depreciation

	Added	Remaining Units	Years to Go	Annual Depreciation
1969	$ 100	$ 2.5		
1970	100	3.0		
1971	100	5.0		
1972	100	7.5		
1973	100	10.0		
1974	100	14.0		
1975	100	18.0		
1976	100	22.5		
1977	100	29.0		
1978	100	37.0	10	$95.0
1979	100	44.0		
1980	100	55.0		
1981	100	63.0		
1982	100	74.0		
1983	100	83.0		
1984	100	91.0		
1985	100	95.0		
1986	100	98.0		
1987	100	99.0		
1988	100	100.0		
	$2,000	$950.5		

$1,080, and the annual depreciation is $1,080 divided by 8, or $135.

Moving out to 1988, one finds that 1980 has dropped off, and $180 of assets have come on the books. Hence, the depreciation is $145 in 1988. On the books (see exhibit 5), at July 1, 1987, there was $1,080 in gross assets. The accumulated depreciation amounts to $555; that leaves a net of $525. In 1988 the institution added $180 to both the gross and the net, and retired $100. The annual depreciation charge is now $145.

EXHIBIT 4
Rolling Vintage Method

	1987	1988
1980	$ 100	
1981	110	$ 110
1982	120	120
1983	130	130
1984	140	140
1985	150	150
1986	160	160
1987	170	170
1988		180
Total	$1,080	$1,160
Divided by 8	$ 135	$ 145

At the end of fiscal year 1988, the institution would have $1,160, gross—$600 of accumulated depreciation, and $560 of net assets.

In the future, an institution may want to continue rolling eight-year vintages, but more likely management would want to refine the lives by using equal-life groups of, say, five years, eight years, and 12 years in general ledger accounts. They may also want to consider a perpetual inventory, which would enable them to go to the item method that to date is all that has been accepted for federal recovery purposes.

EXHIBIT 5
Single Figure Method

	Gross	Accumulated Depreciation	Net
7/1/87	$1,080	$555	$525
Add	180		180
Retire	(100)	(100)	
Depreciation		145	(145)
6/30/88	$1,160	$600	$560

Buildings

The other major asset (perhaps 80 percent of the asset balance at colleges, museums, and independent schools) is buildings. At June 30, 1987, management needs to establish vintages, either for the costs accumulated by individual buildings or for the overall figure. Then it needs to estimate the remaining useful life of each building. The records (if not the cornerstones of the buildings) will tell the accountant when the buildings were built. Management will have to seek information about major additions or renovations in the books.

For an estimate of the remaining useful life, the first step may be to consult the physical plant department. From the estimated historical and remaining useful lives, accumulated depreciation and the annual charge can be estimated. Management may wish to consider a professional appraisal, if the records will not support an estimate of these lives. An appraisal could also involve the sampling of equipment in each building. If an institution does have an appraisal, it must be "trended back" with construction indexes to an estimated original cost. Booking current appraised value is not generally accepted.

What follows is an estimate of building depreciation (see exhibit 6). Assume that management has researched the records. It can associate $20 million in building costs with particular decades. Of this total, $4 million was added before 1950. If an aggregate useful life of 33 years for buildings is assumed, there are two methods of calculating accumulated and annual depreciation. One would involve dividing the chronological age of the building by the chronological age plus the remaining life. In this case, it would be assumed that the pre-1950 additions had lasted for about half their total useful lives. Another, more conservative, method would be to assume that many of the building components added before 1950 had reached the end of their useful lives already. Adopting this alternative, it could be estimated that the structure and land improvements—perhaps 40 percent of this pre-1950 total—still have a remaining useful life. But the institution has adopted an average aggregate life of 33 years for these buildings.

EXHIBIT 6
Estimate of Building Depreciation
(Buildings—6/30/88)

Vintage	Cost	Estimated Live Components (percent)	Asset Value	Accumulated Depreciation	Annual Depreciation
Pre-1950	$ 4,000	40	$ 1,600	$1,600	$ 0
1951–60	5,000	40	2,000	2,000	0
1961–70	5,000	100	5,000	3,485	151
1971–80	3,000	100	3,000	1,182	91
1981–88	3,000	100	3,000	273	91
	$20,000	—	$14,600	$8,540	$293

Average life = 30 years
Remaining-life technique

While these components are fully depreciated, they're still being used. That means that they, and the ones added in the 1950s, belong as gross assets and accumulated depreciation until they are retired.

Next, assume that there was significant construction, say $5 million, in the 1960s—less than 33 years ago. Using that for composite life, it can be assumed that all the components still have a useful life. Adding the average asset in 1965, about $3.5 million of depreciation has accumulated, and that $151,000 per year should be charged on the remaining-life basis. There are similar figures for the 1970s and 1980s. Overall, when FASB 93 is introduced, this institution would start with $20 million, but eliminate $5.4 million of gross assets, and book depreciation of $8.5 million on the rest. The annual depreciation charge would be about $300,000 a year.

In the future, it may be desirable to accumulate cost by building and consider componentization. This would be particularly useful in tying depreciation to the operating budget or to major maintenance schedules or switching from use allowance for federal recovery.

EXHIBIT 7
Building Life Cycle
1960–75

Hobbes Hall	Cost	Expense	Asset Value	Accumulated Depreciation	Annual Depreciation
1960 Construction	$400		$400		$10.0
1961 Fix Leaks	10		410	$ 20.2	10.2
1965 Add Bookcases	1	$ 1	410	61.2	10.2
1970 Move Physics Out	10	10	385	77.2	
1970 Move Chemistry In	60	10	435	89.2	11.9
1972 Upgrade Air Flow	65		500	115.3	14.2
1975 New Paint	10	10	500	158.0	14.2

EXHIBIT 8
Move, 1970

	Cost	Accumulated Depreciation
Physics Out	$410	$102.25
	(25)	(25.00)
	385	77.25
Chemistry In	50	
	$435	$77.25

$$d = \frac{1 - \frac{\$77.25}{\$435}}{30} \times \$435$$

$d = \$11.92$

As a final example, try putting it all together in the life cycle of a building (see exhibit 7). Hobbes Hall was built in 1960 for $400,000. At the time, the institution started depreciating it over 40 years at $10,000 a year. In 1961, a few months after Hobbes Hall opened, the college had to fix a few leaks for $10,000. This was considered a repair, but was necessary to prevent the building from falling apart. Hence, the cost was added to the depreciable base. In 1965, bookcases were added. Because they cost less than the capitalization cutoff, they weren't capitalized. In 1970, physics moved out and chemistry moved in (see exhibit 8). In each case, the cost was $60,000. Of the $60,000 that was incurred for chemistry, about $10,000 was in expense items and $50,000 was to be capitalized. To simplify this, the institution assumed, first, that the original improvements to physics's space were half the cost of those of chemistry, and, second, that they were fully depreciated. Assumptions like these are a lot easier than ferreting out just what the expired cost really is.

In 1972 the college upgraded the airflow in Hobbes Hall because of chemistry experiments. This cost was added in total to the value of Hobbes Hall, making it $500,000. In 1975, there was new painting, which was treated as normal maintenance.

EXHIBIT 9
Building Life Cycle
1975–85

Hobbes Hall	Cost	Expense	Depreciate: Original Life	Depreciate: New Life	Accumulated Depreciation	Annual Depreciation
1975 Balance			$500		$158.0	$14.2
1976 Add Biochemistry	$200		700		180.6	22.6
1980 Old Roof	(25)		675			
New Roof	50		725		248.5	25.1
1985 Chemistry/Biochemistry to new Building	100	$100	290	$160.5	129.5	
1985 Convert to Dorm	600			600.0		
				$760.0	0	19.0

EXHIBIT 10
Conversion to Dorm, 1985

	Cost	Accumulated Depreciation	Net
1/1/85	$ 725	$ 323.7	$401.3
Shell at 40 percent	290	129.5	160.5
Add Renovation	600		600.0
Subtract Depreciation	(129.5)	(129.5)	
1/1/86	$ 760.5	—	$760.5

$$d = \frac{1 - 0}{\frac{\$760.5}{40}} \times \$760.5$$

$$d = \$19.0$$

Going into 1976, then (see exhibit 9), the basis of this building was $500,000; $149,000 of depreciation had accumulated.

In 1976, there was an addition. Biochemistry moved into the new space. Adding this new space did not extend the life of the original building. Hence, the $200,000 of the biochemistry addition, as well as the $500,000 remaining from the original building, is depreciated over the 24-year period that remains.

In 1980, an old roof was ripped off and a new one was added. Under the conventions assumed above, the old roof was worth half the cost of the new roof and was considered fully depreciated.

In 1985, there was a major change in the function of the building. The college built a new science center. Chemistry and biochemistry moved to the new building. About $100,000 of expense was associated with the move. The inside of Hobbes Hall was gutted and converted into a dormitory (see exhibit 10). The original structure and site preparation was still valuable and was preserved in the gross asset value on the books. The plant accountant assumed this to be $290,000. The remaining $435,000 was written off. The accountant did not

use a simplifying assumption. Instead, he calculated the depreciation that was associated with the piece written off, and wrote off the amount not depreciated. There is $129,500 of accumulated depreciation on what remains. The dorm conversion itself cost $600,000, so the total gross basis of Hobbes Hall is now $890,000. The plant accountant will now write off the depreciation from the old life against the gross and start over at $760,500. The new depreciable life of Hobbes Dormitory is also 40 years. The new depreciation is $19,000 a year.

7

REVIEW OF MAJOR ASSET GROUPS

Instructions

The following pages present, by asset category, a description of the organizational actions suggested by FASB 93 and, if appropriate, an accompanying question or concern to which organizational personnel should respond prior to discussions with their public accountants. The suggested questions are shown on the *left* side of each page, while a space for the answers appears on the *right* side. Used together, they can provide the basis for planning, discussion, and related activities among organizational personnel, and between the organization's representatives and its public accounting firm. They can also serve as a record of the decisions made regarding depreciation.

Note: For each of the three asset categories covered in the sections following, *two* sets of required actions are provided: one set which assumes that organizational records are adequate for obtaining the necessary information and one which assumes that they are not. If records for a particular asset category are usable, the organization has the option of following *either* set of required actions and accompanying questions, one which is based on *retrieval* of information from the records and one which is based on the use of *appraisals*. If records are *not* adequate, however, only the set based on the use of *appraisals* would be appropriate.

To begin, and taking the needs of your organization into consideration, please rate the condition of your long-lived asset records as they apply to:

1. Buildings: good, fair, poor, mixed, nonexistent;
2. Equipment: good, fair, poor, mixed, nonexistent;

3. Art (or other) collections, historical treasures, and unique structures: good, fair, poor, mixed, nonexistent.

Also, if records are usable, please estimate the hours needed to obtain the necessary information from the records: _____; portion to be done by organization: _____%, by public accountants: _____%.

Although historical cost is used as the basis for valuation on the following pages, fair value should be used if the asset was acquired by contribution. Also, as noted earlier in the workook, SOP 78-10 provides alternatives to the use of historical cost for certain not-for-profit organizations when historical cost information is not available.

In presenting the suggested actions and related organizational concerns, it is assumed that board approval will be obtained as necessary.

Since the actions and related questions are organized according to a vertical grouping (that is, by asset category), organizations that choose another grouping procedure (see discussion of depreciation methods, techniques, and procedures) should make appropriate changes in the lists of actions to suit their needs.

Description of Suggested Action	Organizational Response
Category: **Buildings** *Task:* Valuation of assets and retroactive adjustment to set up accumulated depreciation account. *Assumption:* **Records available and in usable condition.**	List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information).
Suggested Action	
1. *Identification*—Identify historical cost of buildings from records. Options: a. For all buildings combined (including subsystems?) b. By building c. By building type (e.g., academic, administrative, residential, laboratories, storage) (see appendix A for more information on building types) d. By subsystem (typically including plumbing; electrical systems; heating, ventilating, and air conditioning [HVAC]; roofing; interior parti-	Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost data for purposes of making the retroactive adjustment for depreciation: ____ If different from above, method(s) of aggregating historical cost data for future depreciation calculations on existing or future buildings/subsystems: ____

Description of Suggested Action	Organizational Response
tions; interior finishings, etc.) (see appendix A for a more complete list of subsystems) e. By subsystem within building or building type f. By department or cost center g. By floor, wing, etc. h. By building age or age range i. By location j. Other?	
2. *Modification* — Adjust for increments to building accounts not yet capitalized or amounts capitalized in error. —Scan records for expense items that should be capitalized (e.g., efforts within the building costing over $10,000 [$20,000? $50,000? $100,000?] with a useful life of at least one [two, three, five] years); for capitalized items that should be expensed; and for possible unrecorded items. —As part of this procedure, establish guidelines for the treatment of items such as installation/	Minimum dollar amount to be capitalized: $____ for retroactive adjustment; $____ for future calculations. Minimum asset life to warrant capitalization: ____ yr(s) for retroactive adjustment; ____ yr(s) for future calculations. Preferred treatment (capitalize, expense, minimum dollar amount, etc.) for ____ installation/ freight costs, ____ internal overhead, ____ architect's fees, ____ interest costs, etc.

freight costs, internal overhead (e.g., construction management department), architect's fees, interest costs, etc.

3. *Modification*—Adjust for unrecorded disposal/loss of building parts or subsystems, including adjustment to fund balance.
Options:
a. Reduce account by original cost (if known)
b. Estimate original cost if information not available (e.g., in the case of a replacement, assume that original cost was 50 percent [or X percent] of replacement cost)
c. Ignore disposals as immaterial; let them run out their remaining life included as part of the asset
d. Other?

4. *Option*—Consider confirming historical cost (as adjusted) and accuracy of records with a general appraisal of buildings/building subsystems.

5. *Identification*—Determine acquisition/con-

If different from above, preferred method(s) to be used with future depreciation calculations on existing or future buildings/subsystems: ____

When original cost cannot be determined, using the list to the left indicate the letter(s) of the preferred method(s) of *estimating* original cost of unrecorded disposals as part of retroactive depreciation calculation: ____

If different from above, preferred method(s) to be used with future depreciation calculations on existing or future buildings/subsystems: ____

Preference for confirming historical cost (as adjusted) by obtaining general appraisal of buildings/building subsystems: ____ yes; ____ no

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining acquisi-

Description of Suggested Action	Organizational Response
struction or other relevant date of buildings, subsystems, etc. Options: a. Ascertain exact date from records b. Estimate date using five-year or ten-year ranges c. Use composite date d. Other estimate	tion/construction date of buildings/subsystems: ____
6. *Calculation*—For each distinct group, building, subsystem, etc., identified, calculate number of years (months?) from acquisition/construction or other date, to date the statement is adopted by the organization (per FASB 93 text).	If different from above, preferred method(s) to be used for future depreciation calculations on existing or future buildings/subsystems: ____
7. *Calculation*—Calculate the remaining life and salvage value of the group, building, subsystem, etc., from date statement is adopted, based on current condition and planned use (per FASB 93 text). Options: a. Internal estimate b. Available tables relating to buildings or subsystems (e.g., Internal Revenue Service, Ameri-	Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of buildings/subsystems: ____

can Hospital Association, Defense Contract Audit Agency)
c. Appraisal
d. Other?

8. *Decision*—Select method/procedure/technique(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).

9. *Calculation*—Calculate depreciation amount from acquisition/construction or other relevant date, to date the statement is adopted; this amount is to be recorded as a retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).

10. *Calculation*—Calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future buildings/subsystems: ____

Preferred depreciation method/procedure/technique(s) for buildings/subsystems (see appendix C): ____

If different from above, preferred method to be used for future depreciation calculations on existing or future buildings/sybsystems: ____

Description of Suggested Action	Organizational Response
11. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.	Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.
12. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to include depreciation information (see sample statements and notes—appendix B); disclose fully depreciated buildings.	Describe preferred format for financial statement disclosure (see appendix B): _____ If different from above, describe any format changes anticipated in future: _____
13. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.	Anticipated changes to building/subsystem records in light of FASB requirements, institutional needs and plans, etc.: ____ no change; ____ modification of existing system; ____ new system; ____other.

Category: **Buildings**
Task: Valuation of assets and retroactive adjustment to set up accumulated depreciation account.
Assumption: **Records in poor condition or unavailable/nonexistent.**

List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information).

Suggested Action

1. *Appraisal*—Obtain current appraised value (replacement cost) of buildings, subsystems, etc., and work back to historical cost (using appropriate historical cost indexes) at date of acquisition/construction.
Options:
a. For all buildings combined (including subsystems?)
b. By building
c. By building type (e.g., academic, administrative, residential, laboratories, storage) (see appendix A for more information on building types)
d. By subsystem (typically including plumbing;

Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost data for purposes of making the retroactive adjustment for depreciation: ____

If different from above, method(s) of aggregating historical cost data for future depreciation calculations on existing or future buildings/subsystems: ____

Description of Suggested Action	Organizational Response
electrical system; heating, ventilating, and air conditioning [HVAC]; roofing; interior partitions; interior finishings, etc.) (see appendix A for a more complete list of subsystems) e. By subsystem within building or building type f. By department or cost center g. By floor, wing, etc. h. By building age or age range i. By location j. Other?	
Recommendation: Consideration should be given to obtaining detailed information on subsystems during the appraisal. Such information will facilitate later record keeping when subsystems (but not the entire building) are replaced or modified and will be useful in documenting cost recovery and other calculations. Options for appraisal services: a. Internal (e.g., qualified/certified buildings and grounds personnel)	Using the list to the left, indicate the letter(s) of the preferred source(s) for appaisal services: ___

b. External
—appraisal firm
—public accounting firm
—other appraisal service
c. Other

Options for determination of acquisition/construction or other date:
a. Ascertain exact date from records
b. Estimate date using five-year or ten-year ranges
c. Use composite date
d. Other estimate

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining acquisition/construction date of buildings/subsystems: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future buildings/subsystems: ____

As part of this procedure, establish guidelines for capitalization versus expense during appraisal (e.g., items within the building costing over $10,000 [$20,000? $50,000? $100,000?] with an original life of at least one [two? three? five?] years should be included in the appraisal).

Minimum dollar amount to be capitalized: $____ for retroactive adjustment; $____ for future calculations.
Minimum asset life to warrant capitalization: ____ yr(s) for retroactive adjustment; ____ yr(s) for future calculations.

2. *Decision*—Establish guidelines for the capitalization of expenditures *not* included in the appraisal, such as installation/freight costs, internal overhead (e.g., construction management

Preferred treatment (capitalize, expense, minimum dollar amount, etc.) for ____ installation/freight costs, ____ internal overhead, ____ architect's fees, ____ interest costs, etc.

Description of Suggested Action	Organizational Response
department), architect's fees, interest costs. —Establish guidelines for treatment of items not previously capitalized but valued in appraisal.	Preferred method for treating items not previously valued but identified in appraisal. If different from above, preferred method(s) to be used for future depreciation calculations on existing or future buildings/subsystems: ____
3. *Reminder*—Accounting adjustments to building accounts for tangible and capitalizable items within buildings are *not* needed prior to appraisal: appraisal will include all relevant items if appropriate guidelines are established in advance.	
4. *Reminder*—Loss or disposal of building parts or subsystems are *not* a problem: they are not now present in the building and thus will not be included in the appraisal.	
5. *Modification*—Adjust building or other asset accounts to agree with appraisal of historical cost and include other expenditures requiring capitalization according to established guidelines.	

6. *Calculation*—For each distinct group, building, subsystem, etc., identified, calculate number of years (months?) from acquisition/construction or other date, to date the statement is adopted by the organization (per FASB 93 text).

7. *Calculation*—Calculate the remaining life and salvage value of the group, building, subsystem, etc., from date statement is adopted, based on current condition and planned use (per FASB 93 text).

Options:

a. Internal estimate
b. Available tables relating to buildings or subsystems (e.g., Internal Revenue Service, American Hospital Association, Defense Contract Audit Agency).
c. Appraisal—chronological or effective age
d. Other?

8. *Decision*—Select method / procedure / technique(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of buildings/subsystems: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future buildings/subsystems: ____

Preferred depreciation method/procedure/technique(s) for buildings/subsystems (see appendix C): ____

If different from above, preferred method to be used for future depreciation calculations on existing or future buildings/subsystems: ____

Description of Suggested Action	Organizational Response
9. *Calculation*—Calculate depreciation amount from acquisition/construction or other relevant date, to date the statement is adopted; this amount is to be recorded as a retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).	
10. *Calculation*—Calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).	
11. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.	Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.
12. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to include depreciation information (see sample state-	Describe preferred format for financial statement disclosure (see appendix B): _____

ments and notes—appendix B); disclose fully depreciated buildings.

13. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.

If different from above, describe any format changes anticipated in future: _____

Anticipated changes to building/subsystem records in light of FASB requirements, institutional needs and plants, etc.: ____ no change; ____ modification of existing system; ____ new system; ____ other.

DESCRIPTION OF SUGGESTED ACTION

Category: **Equipment**
Task: Valuation of assets and retroactive adjustment to set up accumulated depreciation account.
Assumption: **Records available and in usable condition.**

ORGANIZATIONAL RESPONSE

List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information).

Suggested Action

1. *Identification*—Identify historical cost of objects, etc., from records.
Options:
a. For all equipment combined
b. By individual equipment
c. By type of equipment
d. By location (e.g., building) of equipment
e. By type of equipment within location
f. By department or cost center
g. By age or age range of equipment
h. By dollar range of equipment
i. By item
j. Other?

Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost data for purposes of making the retroactive adjustment for depreciation: _____

If different from above, method(s) of aggregating historical cost data for future depreciation calculations on existing or future equipment: _____

As part of this procedure, identify original costs of (1) equipment not requiring capitalization, but that the organization may wish to capitalize, and (2) equipment requiring capitalization but not yet capitalized (if any).

2. *Modification*—Adjust for increments to equipment accounts not yet capitalized or amounts capitalized in error.

—Scan records for expense items that should be capitalized (e.g., acquisitions, modifications, etc., costing over $500 [$1,000? $2,500? $5,000?] with a useful life of at least one [two? three? five?] years); for capitalized items that should be expensed; and for possible unrecorded items.

—As part of this procedure, establish guidelines for the treatment of items such as installation/freight costs, internal overhead (e.g., carpenters, electricians, other skilled or expert work), renewal/replacement activities, alteration costs, etc.

Indicate whether (Yes/No) there is: ____ equipment that the organization wishes to capitalize voluntarily; or ____ equipment requiring capitalization but not yet capitalized.

Minimum dollar amount to be capitalized: $____ for retroactive adjustment; $____ for future calculations.
Minimum asset life to warrant capitalization: ____ yr(s) for retroactive adjustment; ____ yr(s) for future calculations.

Preferred treatment (capitalize, expense, minimum dollar amount, etc.) for ____ installation/freight costs, ____ internal overhead, ____ renewal/replacement activities, ____ alteration costs, etc.
If different from above, preferred method(s) to be used with future depreciation calculations on existing or future objects, efforts, etc.: ____

Description of Suggested Action	Organizational Response
3. *Modification*—Adjust for unrecorded disposal/loss of equipment, component parts, etc., including adjustment to fund balance. Options: a. Reduce account by original cost (if known) b. Estimate original cost if information not available (e.g., in the case of a replacement, assume that original cost was 50 percent [or X percent] of replacement cost) c. Ignore disposals as immaterial; let them run out their remaining life included as part of the asset d. Assume that present equipment includes only certain recent vintages within useful-life period ("rolling vintage" method) e. Other?	When original cost cannot be determined, using the list to the left, indicate the letter(s) of the preferred method(s) of *estimating* original cost of unrecorded disposals as part of retroactive depreciation calculation: ____ If different from above, preferred method(s) to be used with future depreciation calculations on existing or future equipment: ____
4. *Option*—Consider confirming historical cost (as adjusted) and accuracy of records with a general appraisal of equipment.	Preference for confirming historical cost (as adjusted) by obtaining general appraisal of equipment: ____ yes, ____ no.
5. *Identification*—Determine acquisition/con-	Using the list to the left, indicate the letter(s) of

struction or other relevant date of equipment, modifications, etc.
Options:
a. Ascertain exact date from records
b. Estimate date using three-year (five-year) ranges
c. Use composite date
d. Other estimate

6. *Calculation*—For each distinct equipment item, group, effort, etc., identified, calculate number of years (months?) from acquisition/construction or other date, to date the statement is adopted by the organization (per FASB 93 text).

7. *Calculation*—Calculate the remaining life and salvage value of the equipment item, group, effort, etc., from date statement is adopted, based on current condition and planned use (per FASB 93 text).
Options:
a. Internal estimate
b. Available tables relating to equipment (e.g., Internal Revenue Service, American Hospital Association, Defense Contract Audit Agency, etc.)

the preferred method(s) of determining acquisition/construction date of equipment, modifications, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future equipment: ____

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of an equipment item, group, effort, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future equipment: ____

Description of Suggested Action	Organizational Response
c. Appraisal d. Other?	
8. *Decision*—Select method / procedure / technique(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).	Preferred depreciation method/procedure/technique(s) for equipment (see appendix C): _____ If different from above, preferred method to be used for future depreciation calculations on existing or future equipment: _____
9. *Calculation*—Calculate depreciation amount from acquisition/construction or other relevant date, to date the statement is adopted; this amount is to be recorded as a retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).	
10. *Calculation*—Calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted, to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).	

11. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.

Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.

12. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to include depreciation information (see sample statements and notes—appendix B); disclose fully depreciated equipment.

Describe preferred format for financial statement disclosure (see appendix B): _____

If different from above, describe any format changes anticipated in future: _____

13. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.

Anticipated changes to equipment records in light of FASB requirements, institutional needs and plants, etc.: ____ no change; ____modification of existing system; ____ new system; ____ other.

Description of Suggested Action

Category: **Equipment**
Task: Valuation of assets and retroactive adjustment to set up accumulated depreciation account.
Assumption: **Records in poor condition or unavailable/nonexistent.**

Suggested Action

1. *Appraisal*—Obtain current appraised value (replacement cost) of equipment and work back to historical cost (using appropriate historical cost indexes) at date of acquisition/construction or other relevant date.
Options:
a. For all equipment combined
b. By individual equipment
c. By type of equipment
d. By location (e.g., building) of equipment
e. By type of equipment within location
f. By department or cost center
g. By age or age range of equipment

Organizational Response

List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information).

Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost (or other) data for purposes of making the retroactive adjustment for depreciation: _____

If different from above, method(s) of aggregating historical cost (or other) data for future depreciation calculations on existing or future equipment: _____

h. By dollar range
i. Other?

Options for appraisal services:
a. Internal (e.g., qualified/certified personnel, experts, etc.)
b. External
—appraisal firm
—public accounting firm
—other appraisal services
c. Other

Using the list to the left, indicate the letter(s) of the preferred source(s) for appraisal services: ____

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Options for determination of acquisition/construction or other date:
a. Ascertain exact date from records
b. Estimate date using three-year or five-year ranges
c. Use composite date
d. Other estimate

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining acquisition/construction or other date of equipment, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future equipment, etc.: ____

2. *Decision*—Establish guidelines for capitalization versus expense during appraisal (e.g., acquisitions,modifications, etc., costing over $500 [$1,000? $2,500? $5,000?] with an original life of

Minimum dollar amount to be capitalized: $____ for retroactive adjustment; $____ for future calculations.
Minimum asset life to warrant capitalization:

Description of Suggested Action	Organizational Response
at least one [two? three? five?] years should be included in the appraisal]. 3. *Decision*—Establish guidelines for the capitalization of expenditures *not* included in the appraisal, such as installation/freight costs, internal overhead [e.g., cost of skilled labor or expert assistance], renewals/replacements, alteration costs, etc. 4. *Reminder*—Accounting adjustments to asset accounts for tangible and capitalizable items are *not* needed prior to appraisal: appraisal will include all relevent items if appropriate guidelines are established in advance. 5. *Reminder*—Loss or disposal of equipment, component parts, etc., are *not* a problem; they are not now present and thus will not be included in the appraisal. 6. *Modification*—Adjust appropriate asset accounts to agree with appraisal of historical cost and include other expenditures requiring capitalization according to established guidelines.	____ yr(s) for retroactive adjustment; ____ yr(s) for future calculations. Preferred treatment [capitalize, expense, minimum dollar amount, etc.] for ____ installation/freight costs, ____ internal overhead, ____ renewals/replacements, ____ alteration costs, etc. If different from above, preferred method[s] to be used for future depreciation calculations on existing or future equipment, etc.: ____

7. *Calculation*—For each distinct equipment item, group, effort, etc., identified, calculate number of years (months?) from acquisition/ construction or other date, to date the statement is adopted by the organization (per FASB 93 text).

8. *Calculation*—Calculate the remaining life and salvage value of the equipment item, group, effort, etc., from date statement is adopted, based on current condition and planned use (per FASB 93 text).

Options:

a. Internal estimate
b. Available tables relating to equipment (e.g., Internal Revenue Service, American Hospital Association, Defense Contract Audit Agency, etc.)
c. Appriasal
d. Other?

9. *Decision*—Select method / procedure / technique(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of equipment: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future equipment: ____

Preferred depreciation method/procedure/technique(s) for equipment (see appendix C): ____

If different from above, preferred method to be used for future depreciation calculations on existing or future equipment: ____

Description of Suggested Action	Organizational Response
10. *Calculation*—Calculate depreciation amount from acquisition/construction or other relevant date, to date the statement is adopted; this amount is to be recorded as a retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).	
11. *Calculation*—Calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted, to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).	
12. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.	Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.
13. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to in-	Describe preferred format for financial statement disclosure (see appendix B): _____

clude depreciation information (see sample statements and notes—appendix B); disclose fully depreciated equipment.

14. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.

If different from above, describe any format changes anticipated in future: _____

_____

Anticipated changes to equipment records in light of FASB requirements, institutional needs and plans, etc.: ____ no change; ____ modification of existing system; ____ new system; ____ other.

DESCRIPTION OF SUGGESTED ACTION

Category: **Art (and Other) Collections, Historical Treasures, and Unique Structures.**
Task: Valuation of assets and retroactive adjustment to set up accumulated depreciation account.
Assumption: **Records available and in usable condition.**

Suggested Action

1. *Identification*—Identify historical cost of objects, etc., from records.
Options:
a. For all objects combined
b. By individual object
c. By type of object
d. By location (e.g., building) of object
e. By type of object within location
f. By department or cost center
g. By age or age range of object
h. By collection
i. Other?

ORGANIZATIONAL RESPONSE

List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information):

Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost data for purposes of making the retroactive adjustment for depreciation: ____

If different from above, method(s) of aggregating historical cost data for future depreciation calculations on existing or future objects: ____

As part of this procedure, identify costs of (1) assets not requiring capitalization, but that the organization may wish to capitalize (e.g., collections), and (2) assets requiring capitalization but not yet capitalized (if any).

2. *Modification*—Adjust for increments to asset accounts not yet capitalized or amounts capitalized in error.

—Scan records for expense items that should be capitalized (e.g., objects, efforts, or modifications costing over $500 [$1,000? $2,500? $5,000?] with a useful life of at least one [two? three? five?] years; for capitalized items that should be expensed; and for possible unrecorded items.

—As part of this procedure, establish guidelines for the treatment of items such as installation/freight costs, internal overhead, preservation/restoration activities, discovery costs, etc.

Indicate whether (Yes/No) there are: ____ assets that the organization wishes to capitalize voluntarily; or ____ assets requiring capitalization but not yet capitalized.

Minimum dollar amount to be capitalized: $____ for retroactive adjustment: $____ for future calculations.
Minimum asset life to warrant capitalization: ____ yr(s) for retroactive adjustment; ____ yr(s) for future calculations.

Preferred treatment (capitalize, expense, minimum dollar amount, etc.) for ____ installation/freight costs, ____ internal overhead, ____ preservation/restoration activities, ____ discovery costs, etc.

If different from above, preferred method(s) to be used with future depreciation calculations on existing or future objects, efforts, etc.: ____

Description of Suggested Action	Organizational Response
Observation: Paragraph 37 of FASB 93 requires depreciation on the capitalized costs of preservation/restoration devices or efforts, even if depreciation is not recorded on the asset affected by these efforts or devices.	
3. *Modification*—Adjust for unrecorded disposal/loss of capitalized objects, including adjustment to fund balance. Options: a. Reduce account by original cost (if known) b. Estimate original cost if information not available (e.g., in the case of a replacement, assume that original cost was 50 percent [or X percent] of replacement cost) c. Ignore disposals as immaterial; let them run out their remaining life included as part of the asset d. Other?	When original cost cannot be determined, using the list to the left, indicate the letter(s) of the preferred method(s) of *estimating* original cost of unrecorded disposals as part of retroactive depreciation calculation: _____ If different from above, preferred method(s) to be used with future depreciation calculations on existing or future objects, efforts, etc.: _____
4. *Option*—Consider confirming historical cost (as adjusted) and accuracy of records with a general appraisal of assets in one or more categories.	Preference for confirming historical cost (as adjusted) by obtaining general appraisal of buildings/building subsystems: _____ yes; _____ no.

5. *Identification*—Determine acquisition/construction or other relevant date of objects, efforts, etc.
Options:
a. Ascertain exact date from records
b. Estimate date using five-year (ten-year) ranges
c. Use composite date
d. Other estimate

6. *Identification*—Identify capitalized objects that may qualify for exemption from depreciation under FASB 93, i.e., "individual works of art or historical treasures whose economic benefit or service potential is used up so slowly that their estimated useful lives are extraordinarily long." (par. 6) *Note:* See earlier discussion or refer to full text of FASB 93, especially pars. 6 and 31–37.

7. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate number of years (months?) from acquisition/construction or other date, to date the statement is adopted by the organization (per FASB 93 text).

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining acquisition/construction or other date of objects, efforts, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future objects, efforts, etc.: ____

After reviewing paragraphs 6 and 31–37 of FASB 93, indicate whether (Yes/No) the organization may have assets that qualify for exemption from depreciation: ____

8. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate the remaining life and salvage value from date statement is adopted, based on current condition and planned use (per FASB 93 text).
Options:
a. Internal estimate
b. Available tables relating to assets of this type
c. Appraisal
d. Other?

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of objects, efforts, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future objects, efforts, etc.: ____

9. *Decision*—Select method(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).

Preferred depreciation method(s) for objects, efforts, etc. (see appendix C): _____

If different from above, preferred method to be used for future depreciation calculations on existing or future objects, efforts, etc.: _____

10. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate depreciation amount from acquisition/construction or other date, to date the statement is adopted; this amount is to be recorded as a retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).

11. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).

12. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.

Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.

13. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to include depreciation information (see sample statements and notes—appendix B); disclose fully depreciated objects.

Describe preferred format for financial statement disclosure (see appendix B): _____

If different from above, describe any format changes anticipated in future: _____

14. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.

Anticipated changes to building/subsystem records in light of FASB requirements, institutional needs and plans, etc.: ____ no change; ____ modification of existing system; ____ new system; ____ other.

Description of Suggested Action

Category: **Art (and Other) Collections, Historical Treasures, and Unique Structures**
Task: Valuation of assets and retroactive adjustment to set up accumulated depreciation account.
Assumption: **Records in poor condition or unavailable/nonexistent.**

Suggested Action

1. *Appraisal*—Obtain current appraised value (replacement cost) of objects, etc., and work back to historical cost (using appropriate historical cost indexes) at date of acquisition/construction or other relevant date.
Options:
a. For all objects combined
b. By individual object
c. By type of object
d. By location (e.g., building) of object
e. By type of object within location
f. By department or cost center

Organizational Response

List your preference(s) in response to the following questions, which are based on the required actions described on the left side of the page (fill in or check *all* answers that apply under each topic or *rank* your top two to three choices; if choosing "other," please provide appropriate information).

Using the list to the left, indicate the letter(s) of the preferred method(s) of aggregating historical cost (or other) data for purposes of making the retroactive adjustment for depreciation:

____

If different from above, method(s) of aggregating historical cost (or other) data for future depreciation calculations on existing or future objects, efforts, etc.: ____

1 - 0

g. By age or age range of object
h. By collection
i. Other?

Observation: For works of art, books, artifacts, and other objects (especially those that are rare), the notion of replacement cost may be irrelevant (or impossible to determine) and the use of historical cost indexes may not reflect the abnormally high appreciation in value that could have taken place. In such cases, other reasonable attempts at estimating historical cost (or fair value, if donated) as of the appropriate date should be made. Furthermore, if historical cost cannot be determined, SOP 78-10 provides for the use of alternative measures in the case of certain organizations covered by its provisions.

Options for appraisal services:
a. Internal (e.g., qualified/certified personnel, experts, etc.)
b. External
   —art specialists
   —other appraisal services
c. Other

Using the list to the left, indicate the letter(s) of the preferred source(s) for appraisal services: ____

DESCRIPTION OF SUGGESTED ACTION	ORGANIZATIONAL RESPONSE
Observation: Appraisal of works of art may be a lengthy and expensive process, in comparison with other appraisals.	
Options for determination of acquisition/construction or other date: a. Ascertain exact date from records b. Estimate date using five-year or ten-year ranges c. Use composite date d. Other estimate	Using the list to the left, indicate the letter(s) of the preferred method(s) of determining acquisition/construction or other date of objects, efforts, etc.: ____ If different from above, preferred method(s) to be used for future depreciation calculations on existing or future objects, efforts, etc.: ____
As part of this procedure, identify and appraise costs of (1) assets not requiring capitalization, but that the organization may wish to capitalize (e.g., collections), and (2) assets requiring capitalization but not yet capitalized (if any).	Indicate whether (Yes/No) there are: ____ assets that the organization wishes to capitalize voluntarily; or ____ assets requiring capitalization but not yet capitalized.
2. *Decision*—Establish guidelines for capitalization versus expense during appraisal (e.g., objects, efforts, etc., costing over $500 [$1,000? $2,500? $5,000?] with an original life of at least	Minimum dollar amount to be capitalized: $____ for retroactive adjustment; $____ for future calculations. Minimum asset life to warrant capitalization:

one [two? three? five?] years should be included in the appraisal).

3. *Decision*—Establish guidelines for the capitalization of expenditures *not* included in the appraisal, such as installation/freight costs, internal overhead (e.g., cost of skilled labor or expert assistance), preservation/restoration activities, discovery costs, etc.

4. *Reminder*—Accounting adjustments to asset accounts for tangible and capitalizable items are *not* needed prior to appraisal; appraisal will include all relevant items if appropriate guidelines are established in advance.

5. *Reminder*—Loss or disposal of objects or portions of objects are *not* a problem; they are not now present and thus will not be included in the appraisal.

6. *Modification*—Adjust appropriate asset accounts to agree with appraisal of historical cost and include other expenditures requiring capi-

_____ yr(s) for retroactive adjustment; _____ yr(s) for future calculations.

Preferred treatment (capitalize, expense, minimum dollar amount, etc.) for _____ installation/freight costs, _____ internal overhead, _____ preservation/restoration activities, _____ discovery costs, etc.

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future objects, efforts, etc.: _____

Description of Suggested Action	Organizational Response
talization according to established guidelines. **Observation:** As noted above, historical cost (or fair value, if donated) is preferred when assets are recorded. However, when historical cost cannot be determined for certain organizations covered by SOP 78-10, other measures are allowed by that pronouncement.	
7. *Identification*—Identify capitalized objects that may qualify for exemption from depreciation under FASB 93, i.e., "individual works of art or historical treasures whose economic benefit or service potential is used up so slowly that their estimated useful lives are extraordinarily long." (par. 6) *Note:* See earlier discussion or refer to full text of FASB 93, especially pars. 6 and 31–37.	After reviewing paragraphs 6 and 31–37 of FASB 93, indicate whether (Yes/No) the organization may have assets which qualify for exemption from depreciation: ____
8. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate the number of years (months?) from acquisition/ construction or other date, to date the statement is adopted by the organization (per FASB 93 text).	

9. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate the remaining life and salvage value from date statement is adopted, based on current condition and planned use (per FASB 93 text).
Options:
a. Internal estimate
b. Available tables relating to specialized objects, etc.
c. Appraisal
d. Other?

Using the list to the left, indicate the letter(s) of the preferred method(s) of determining remaining useful life and salvage value of objects, efforts, etc.: ____

If different from above, preferred method(s) to be used for future depreciation calculations on existing or future objects, efforts, etc.: ____

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10. *Decision*—Select method(s) of depreciation to be used (see appendix C for illustrations of depreciation methods).

Preferred depreciation method(s) for objects, efforts, etc. (see appendix C): _____

If different from above, preferred method to be used for future depreciation calculations on existing or future objects, efforts, etc.: _____

11. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate depreciation amount from acquisition/construction or other relevant date, to date the statement is adopted; this amount is to be recorded as a

Description of Suggested Action	Organizational Response
retroactive adjustment to the new accumulated depreciation account (see sample entries—appendix B).	
12. *Calculation*—For each distinct object, effort, group, etc., identified as depreciable, calculate depreciation amount for the period (usually one to two years) from the date the statement is adopted to the date of the financial statements; this amount is to be added to the new accumulated depreciation account (see sample entries—appendix B).	
13. *Option*—At the organization's option, allocate depreciation charges and accumulated depreciation balances to departments, cost centers, etc.	Indicate whether (Yes/No) institution chooses to allocate depreciation to departments, cost centers, etc.: ____ for retroactive adjustment; ____ for future calculations.
14. *Modification*—Modify current-year financial statements (and any prior year presented), including notes to financial statements, to include depreciation information (see sample statements and notes—appendix B); disclose fully depreciated assets.	Describe preferred format for financial statement disclosure (see Appendix B): _____ If different from above, describe any format changes anticipated in future: _____

15. *Modification*—Modify organizational records, record-keeping practices, and systems as needed in light of FASB requirements, institutional needs, and future plans.

Anticipated changes to records or objects, efforts, etc., in light of FASB requirements, institutional needs and plans, etc.: ____ no change; ____ modification of existing system; ____ new system; ____ other.

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OTHER ISSUES

Funding of Depreciation

In addition to recording depreciation, an organization may choose to actually set aside resources, usually cash or secure investments, in order to provide for the eventual replacement of long-lived assets whose service potential has been fully utilized. This procedure is known as *funding* depreciation and can be done in an amount equal to depreciation or some other amount.

Funding of depreciation is *not* required by FASB 93, but it may offer the organization a disciplined way of providing for asset acquisitions at the appropriate time. Since replacement will undoubtedly be at higher than original historical cost, the organization must rely on earning enough interest or setting aside enough resources in excess of historical cost to approximate replacement cost.

In the most basic situation, funding depreciation simply involves making the necessary journal entry to move the cash or other resources to a separately identified account. In other cases, the organization may have a plant fund, with depreciation being recorded in the plant fund directly or in the current fund with a transfer made to the plant fund. In either case, this usually necessitates a transfer of cash or other resources from the current fund to the plant fund in order to complete the funding procedure. Appendix B includes examples of the journal entries and financial statement presentations that would be typical in these two instances.

Outline of Presentation to the Board of Directors

Prior to or during the implementation period for FASB 93, the chief financial officer or controller may find it advisable

or necessary to make an explanatory presentation to the members of the board. This presentation may simply be informational in nature, or it may be required in order to obtain approval for expenditures or policy changes. The following outline suggests topics that might be covered in a meeting with the board. Use of handouts, diagrams, charts, or audiovisual materials should also be considered.

- Provide a definition of depreciation and a brief explanation of the way in which the organization has accounted for depreciation in the past.
- Review the major features and requirements of FASB 93, especially as they apply to the organization (see Highlights of FASB 93).
- Review some of the broad implications of FASB for the organization (see Executive Summary).
- (optional) Provide (1) a brief historical perspective on depreciation in the not-for-profit sector and (2) a review of the FASB's theoretical justification for requiring depreciation (see appropriate sections of the Overview).
- Discuss institutional commitments (if any) necessitated by the requirements of FASB 93 (for example, staff utilization, changes in record-keeping procedures, payment of appraisal/accounting fees, and changes to financial statement presentation).
- Discuss optional areas suggested by FASB 93 (for example, development or expansion of fixed asset or budget systems, funding of depreciation, refinement of capitalization/expense policies, and allocation of costs to departments or cost centers).
- Obtain board approval as needed for commitment of resources, changes in policy, and further study of optional areas.

Obviously, a presentation to the board of directors can be developed only after factors such as the level of knowledge of board members and the length of time permitted for the presentation are known. However, the topics listed above should provide the basis for preparing an overview of FASB 93 for the board under various sets of circumstances.

APPENDIX A

TYPES OF BUILDINGS AND BUILDING SUBSYSTEMS

The following is one illustration of how buildings and building subsystems might be categorized. In this instance, the organization is a college or university, but the example has applicability to other organzations.

Types of Buildings

Based on the stated assumption that the type of subsystems will vary with the type of facility, the physical plant was analyzed to determine the functional utilization of facilities in general. Functional use was determined on a building-by-building basis by classifying each building as to its primary designated use. Multifunctional use of facilities was considered but ignored during the initial classification. This resulted in the identification of nine functional space types:

Research laboratories
Teaching laboratories
Offices
Classrooms
Library
Athletics
Residences
Patient care
Other (miscellaneous storage, etc.)

Each of the identified space types was then analyzed to determine if it had subsystems that would rate it significantly different from the others. This analysis reduced the nine initial categories to five:

Research/teaching/laboratories
Office/classrooms/athletics/libraries
Patient care
Storage buildings and other with minimal systems
Residential

Components Included in Building Subsystems

BUILDING SUBSYSTEMS:	INCLUDES:
Foundations and major vertical, floor, and roof structures	Excavation, piling, columns, load-bearing and shear walls or bracing, floor slabs, beams and girders above grade
Roofing	Roofs, flashing, guttering and downspouts
Exterior cladding	Skylights, nonstructural skin, insulation, external doors and windows
Interior partitions	Non–load-bearing walls, interior doors and windows, railing, sound insulation
Interior finishings	Floor coverings, plaster work, trim, drapes, paint, light fixtures
Elevators	Dumbwaiters, linen chutes, escalators
Plumbing	Hot and cold water, steam, gas, air vacuum lines
HVAC—moving	Fans, heating and cooling coils, motors, cooling towers
HVAC—static	Duct work, diffusers, registers
Electrical—moving	Switches, relays, circuit breakers
Electrical—static	Fuses, wiring
Fire protection	Automatic sprinklers

Building Subsystems:	Includes:
Special equipment and miscellaneous	Built-in appliances (ranges, ovens) and bookcases, cabinet work, folding room dividers, laboratory tables, special work areas

Source: F. M. Biedenweg and R. E. Hutson, "Before the Roof Caves In: A Predictive Model for Physical Plant Renewal," *Business Officer*, vol. 16, no. 12 (1983).

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APPENDIX B

SAMPLE FINANCIAL STATEMENTS AND JOURNAL ENTRIES

For purposes of financial statement presentation, the provision for depreciation and the related accumulated depreciation amount may be reported in a number of ways depending, among other things, on (1) the audit guide provisions for the type of organization involved, (2) whether the organization has previously recorded depreciation, and (3) whether the organization has chosen to fund depreciation. Shown on the next several pages are several examples reflecting a variety of organizations and circumstances. Although other variations are possible, the examples provided do give a good cross-section of statement presentations and accompanying journal entries.

The types of organizations and specific examples given are as follows:

A College

Case A shows the effect on the plant fund when depreciation is adopted at a college for the first time. The case conforms to the requirements of FASB 93 as to the retroactive restatement of any prior year presented in the year of adoption. Depreciation for colleges has been optional in the past and, when taken, has been recorded in the plant fund as stipulated in the audit guide for colleges and universities.

A Library

Cases B and C show the recording of depreciation in the current fund with a transfer to the plant fund (B) and the

recording of depreciation in the plant fund directly (C) (which is specified in SOP 78-10).

Case D is similar except, in addition to showing the recording of depreciation, it also shows the actual *funding* of depreciation by transferring cash from the current fund to the plant fund. Funding all or some of the provision for depreciation is optional for the organization.

All four cases assume that depreciation has routinely been recorded in the past. *Note:* the total funds column for all four cases is the same despite the different treatment within the two individual funds.

A Hospital

Case E shows the recording of depreciation on an ongoing basis in the statement of revenues and expenses and the related accumulated depreciation amount in the balance sheet. Hospitals do not have a separate plant fund and thus, as far as long-lived assets are concerned, the display of information in these two statements tends to resemble that found in profit-making enterprises.

Case A: This example shows the effect on the statement of changes in fund balances of the plant fund when depreciation is adopted for the first time by a college. Appropriate entries are also shown.

Note: Under the present basis of accounting for colleges and universities, depreciation is not considered an expenditure of the current fund; therefore, the provision for depreciation has not been reported in the statement of current funds revenues, expenditures, and other changes.

EXHIBIT B-1
XYZ College
Statement of Changes in Plant Fund Balances
Year Ended June 30

	1989	1988 as Adjusted (see note A)
Beginning fund balance, as previously reported	200,000	195,000
Adjustment for the cumulative effect on prior years of adopting depreciation (see note B)	(87,000)	(80,000)
Beginning fund balance, as adjusted	113,000	115,000
Changes other than depreciation (net)	1,000	5,000
Changes due to provision for depreciation (see note C)	(9,000)	(7,000)
Ending fund balance	105,000	113,000

See accompanying notes to financial statements at the end of this appendix.

	Dr.	Cr.
Plant fund:		
Fund balance	80,000	
Accumulated depreciation		80,000
To record retroactive change to depreciation accounting		
Fund balance	7,000	
Accumulated depreciation		7,000
To record depreciation expense for prior year		
Fund balance	9,000	
Accumulated depreciation		9,000
To record depreciation expense for current year		

Case B: This example shows the recording of depreciation in the current fund and the transfer of depreciation to the plant fund, along with appropriate entries. Note that recording of depreciation in the current fund is not specified by SOP 78-10.

EXHIBIT B-2
ABC Library
Statement of Revenues, Expenses, and Changes in Fund Balances

	Current Fund	Plant Fund	Total Funds
Revenues	120,000	10,000	130,000
Expenses:			
Other than depreciation	(100,000)		(100,000)
Depreciation	(5,000)		(5,000)
Excess of revenues over expense	15,000	10,000	25,000
Beginning fund balance	50,000	80,000	130,000
Ending fund balance	65,000	90,000	155,000
		Dr.	Cr.
Current fund:			
Depreciation expense (fund balance)		5,000	
Cash			5,000
Plant fund:			
Cash		5,000	
Accumulated depreciation			5,000

Case C: This example shows the recording of depreciation directly in the plant fund, along with appropriate entries.

EXHIBIT B-3
ABC Library
Statement of Revenues, Expenses, and Changes in Fund Balances

	Current Fund	Plant Fund	Total Funds
Revenues	120,000	10,000	130,000
Expenses:			
Other than depreciation	(100,000)		(100,000)
Depreciation		(5,000)	(5,000)
Excess of revenues over expenses	20,000	5,000	25,000
Beginning fund balance	50,000	80,000	130,000
Ending fund balance	70,000	85,000	155,000
		Dr.	Cr.
Plant fund:			
Depreciation expense (fund balance)		5,000	
Accumulated depreciation			5,000

Case D: This example shows the recording of depreciation directly in the plant fund and the transfer of an equal amount of cash from the fund balance of the current fund to the plant fund in order to fund depreciation. Appropriate entries are also shown.

EXHIBIT B-4
ABC Library
Statement of Revenues, Expenses, and Changes in Fund Balances

	Current Fund	Plant Fund	Total Funds
Revenues	120,000	10,000	130,000
Expenses:			
Other than depreciation	(100,000)		(100,000)
Depreciation		(5,000)	(5,000)
Excess of revenues over expenses	20,000	5,000	25,000
Beginning fund balance	50,000	80,000	130,000
Transfer to plant fund	(5,000)	5,000	0
Ending fund balance	65,000	90,000	155,000
		Dr.	Cr.
Current fund:			
Transfer to plant fund (fund balance)		5,000	
Cash			5,000
Plant fund:			
Depreciation expense (fund balance)		5,000	
Cash		5,000	
Accumulated depreciation			5,000
Transfer from current fund (fund balance)			5,000

Case E: This example shows the recording of depreciation in the statement of revenues and expenses and the accompanying accumulated depreciation account in the balance sheet, along with appropriate entries.

EXHIBIT B-5
Rx Hospital
Statement of Revenues and Expenses

	Year ended December 31, 1989	1988
Revenues	900,000	800,000
Expenses:		
Other than depreciation	700,000	600,000
Depreciation	50,000	40,000
Excess of revenues over expenses	150,000	160,000

EXHIBIT B-6
Rx Hospital
Balance Sheet (excerpt)

	At December 31 1989	1988
Fixed assets:		
Land	100,000	100,000
Buildings	450,000	450,000
Equipment	250,000	250,000
Total	800,000	800,000
Less: Accumulated depreciation	(190,000)	(140,000)
Fixed assets of book value	610,000	660,000
	Dr.	Cr.
Depreciation expense (1988)	40,000	
Accumulated depreciation		40,000
Depreciation expense (1989)	50,000	
Accumulated depreciation		50,000

Notes to Financial Statements

NOTES A: SIGNIFICANT ACCOUNTING POLICIES

Educational plant is stated at cost or amounts assigned at dates of gifts, less accumulated depreciation, computed on a straight-line basis over the estimated useful lives of buildings (30–100 years) and equipment (3–15 years). Equipment additions are removed from the records at the time of disposal. See notes B and C.

NOTE B: ACCOUNTING CHANGES

The college has adopted depreciation for all long-lived assets in 1989. The new method of accounting was adopted to conform with Statement of Financial Accounting Standards no. 93, which requires depreciation for all not-for-profit enterprises. The financial statements of prior years have been restated to apply the new method retroactively. The effect of the change was to decrease the change in the invested-in plant fund balance by $9,000 in 1989 and $7,000 in 1988, and to reduce the balance of funds invested in plant at July 1, 1987, by $80,000 to recognize the cumulative effect of depreciation.

NOTE C: DEPRECIATION

The invested-in plant fund in the accompanying financial statements is presented net of accumulated depreciation of $96,000 and $87,000 at June 30, 1989, and 1988, and includes current provisions for depreciation of $9,000 and $7,000 for fiscal years 1989 and 1988, respectively.

OTHER ADJUSTMENTS

It is likely that many institutions will reexamine their capitalization policies and conduct physical inventories of assets at the time they implement FASB 93.

Restatement of Net Investment in Plant

During 1988, the institution adopted the provisions of Statement of Financial Accounting Standards no. 93 (SFAS no. 93), *Recognition of Depreciation by Non-for-Profit Organizations*, which requires the recording of depreciation of long-lived tangible assets.

The institution also changed its policy of recording library books at $1 per book to a value equal to the average acquisition cost in the year of purchase.

In addition, the institution made certain corrections to its accounting records to reflect the results of an inventory of plant assets taken during the year.

Accordingly, net investment in plant as of July 1, 1987, has been adjusted as follows:

Net investment in plant, as previously reported	$195,000
Adjustments:	
To record accumulated depreciation related to prior years	80,000
To record library books at average acquisition cost in year of purchase	5,000
To record plant asset inventory adjustments	(5,000)
Net investment in plant, as restated	$115,000

Note: From a technical standpoint, the adjustments to library books and recording of plant assets may represent corrections of errors that are not necessarily related to the requirements of FASB 93. Depending on their materiality, they may require separate mention in the auditor's opinion.

APPENDIX C

DETAILED DESCRIPTION OF DEPRECIATION METHODS, TECHNIQUES, AND PROCEDURES

Methods

STRAIGHT LINE

Calculation: Cost less salvage/estimated service life

Features (advantages and disadvantages): Assumes, correctly or otherwise, that depreciation is a function of time, that the decline in economic usefulness is the same each year, and that maintenance expense is constant each period; simple to apply; provides equal depreciation each year.

Example: $32,000 cost − 2,000 salvage = $30,000
$30,000/5-year life = $6,000 depreciation per year

UNITS OF PRODUCTION (ACTIVITY)

Calculation: {[Cost less salvage]/total activity [for instance, hours for a power plant at a college or miles for a vehicle at a hospital]} × activity this year

Features: Assumes that depreciation is a function of use rather than time; may not be accurate where time or other factors independent of use (e.g., economic or functional factors such as obsolescence) are important; estimate of total activity may

be difficult to obtain; accurate and appropriate where loss of economic usefulness correlates with activity or production.

Example: $32,000 Cost − 2,000 salvage = $30,000
$30,000/15,000 hours over 5 years = $2/hour depreciation
$2 × 4,000 in Year 1 = $8,000 in Year 1

SUM OF THE YEARS' DIGITS

Calculation: Cost less salvage × declining fraction.

The numerator of the fraction starts with the highest-numbered year of the asset's life and declines by 1 each year; the denominator is the sum of the digits in the asset's life. For example, for an asset with a five-year life, cost less salvage would be multiplied by 5/15, 4/15, 3/15, etc., during the five-year period.

Features: An accelerated method that assumes the asset is more efficient or experiences the greatest loss of services in the early years; thus, more depreciation should be charged; also, since maintenance costs are usually higher in later years, depreciation combined with maintenance will be constant; for taxable entities, provides a tax benefit in early years.

Example: $32,000 Cost − 2,000 salvage = $30,000
5-year life: 1 + 2 + . . . + 5 = 15
$30,000 × 5/15 = $10,000 Depreciation in Year 1
$30,000 × 4/15 = $8,000 Depreciation in Year 2, etc.

DECLINING BALANCE

Calculation: Book value (that is, cost less accumulated depreciation) × a constant percentage, which is usually a multiple of the straight-line rate. The calculated annual amounts are usually adjusted in the last year or two in order to preserve the salvage value.

For example, in an asset with a ten-year life, twice the straight-line rate would be 20 percent. The depreciation for Year 1 would be cost × 20 percent; the depreciation for Year 2 would be (cost less accumulated depreciation) × 20 percent; etc.

Features: Similar to Sum-of-the-Years'-Digits.

Example: For 5-year life, twice the straight-line rate is 40%.
$32,000 book value × .40 = $12,800 in Year 1
($32,000 − 12,800) book value × .40 = $7,680 in Year 2, etc.

ACCELERATED COST RECOVERY SYSTEM (ACRS)

Calculation: Cost × a prescribed percentage from a table.

The percentage depends on the year of the calculation and the classification of the asset. Assets are classified as three-, five-, ten-, or 15-year property, and specific types of assets are assigned to each class. Salvage value is ignored and, in general, only a half-year amount is built into the tables for the first year.

An alternate to the ACRS method, often called the optional straight-line method, extends depreciation over the life of the class or *longer* when, for example, revenues are not sufficient to obtain a tax advantage using the higher amounts provided by the ACRS table. As with the regular ACRS method, salvage value is ignored and, in general, the half-year convention is used in the first year.

Features: Required for tax purposes as a result of the Economic Recovery Tax Act of 1981. Designed to help the user organization write off its investment over a shorter period, with resulting tax benefits; to stimulate new investment; and to settle any disagreement over useful life by adopting required recovery periods for most capital investments. Generally, the ACRS lives are too short to be used for book purposes.

Example: For the five-year property classification (certain machinery and equipment), the percentages are 15%, 22%, 21%, 21%, and 21%, respectively.

$32,000 × 15% = $4,800 Depreciation in Year 1, etc.

INVENTORY METHOD (ALSO CALLED THE APPRAISAL SYSTEM)

Calculation: Value of beginning inventory, plus cost of assets acquired during year, less the value of the ending inventory = depreciation expense for the year.

Features: May be a practical method to value small tangible assets, such as tools, where separate depreciation schedules are impractical; not systematic and rational; valuations may involve too much subjectivity or may employ market or liquidation values, thus violating historical cost principle.

Example: $10,000 January 1 valuation of small machines used for production + $8,000 cost of small machines purchased during the year − $15,000 December 31 valuation of small machines = $3,000 Depreciation for the year.

RETIREMENT SYSTEM

Calculation: Original cost of assets is capitalized. At retirement, the cost less salvage of the retired asset is charged to depreciation, with an offsetting credit directly to the asset account, and the cost of the new asset is capitalized.

Features: Used principally by railroads and public utilities that own large numbers of relatively small-value assets such as poles, telephones, and ties, where more elaborate depreciation methods would be impractical; assumes that retirements occur fairly constantly somewhere within the asset category, thus providing regular charges; does not utilize accumulated depreciation account.

Example:

1989			1990		
New asset:			Retirement:		
Assets	8,000		Depn. exp.	1,000	
Cash		8,000	Assets		1,000
			New asset:		
			Assets	2,000	
			Cash		2,000

REPLACEMENT SYSTEM

Calculation: Original cost of assets is capitalized. At time of replacement, the cost of replacement assets (less salvage of the assets being *replaced*) is charged to depreciation with an offsetting credit to, for example, cash or long-term liabilities.

Features: Similar to retirement system in general; unlike retirement system, original cost is maintained on accounts indefinitely.

Example:

1989			1990		
New asset:			Retirement:		
Assets	8,000				no
Cash		8,000			entry
			New asset:		
			Depn. exp.	2,000	
			Cash		2,000

COMPOSITE (GROUP) SYSTEM

Calculation: The annual depreciation for each category of asset in a group of assets is calculated. The depreciation amounts are added together and divided by the total cost of the assets to determine an average rate of depreciation. The rate is then used to determine annual depreciation until the salvage value of the asset group is reached.

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Features: Simplifies record keeping and calculations when there are a large number of assets; categories of assets can be similar or dissimilar with identical or different useful lives; since assets are not individually identified, no gain or loss on disposal (if any) can easily be computed and therefore is usually absorbed into the debit to accumulated depreciation; if a new category of asset is added to the group, a new rate is computed and used in subsequent periods.

Example:

Cost	*Salvage*	*To Be Depr.*	*Life*	*Annual Depn.*
$100,000	$10,000	$ 90,000	3	$30,000
125,000	25,000	100,000	4	25,000
100,000	20,000	80,000	5	16,000
$325,000	$55,000	$270,000		$71,000

Composite rate = $71,000/$325,000 = 21.8% per year
Composite life = $270,000/$71,000 = 3.8 years

COMPOUND ITEREST METHODS (SINKING FUND METHOD, ANNUITY METHOD, ETC.)

Calculation (Sinking Fund Method): This method is based on an annual depreciation charge consisting of an annuity that theoretically will be invested at interest so that the sum of the annuities and the interest accumulated over the life of the property will recover the depreciable cost.

Features: Increasing charge methods that result in lower depreciation in early years, higher depreciation in later years; use is currently limited to public utilities, but method may be conceptually attractive for other organizations in certain situations.
Example: (Sinking Fund Method): The accrual rate or annuity may be calculated by the following formula for a single unit of plant:

$d = [i/[1 + i]^{L} - 1] \times (1 - S)$ where:

d = depreciation rate for any year
i = rate of interest
L = service life
S = net salvage + plant cost

Techniques

The depreciation methods may be applied in combination with several alternative techniques. These techniques are concerned with the portions of the average service life used in the depreciation system, rather than the estimate of average service life itself. The two basic techniques involve the use of either the whole-life or the remaining-life in the depreciation calculations. Each of these basic techniques must then be qualified as to whether it is on the location-life basis or on the total-life basis.

The Whole-Life Technique. The whole-life technique spreads depreciation over the entire life of the plant by making use of the entire average service life in the depreciation formula. In the event that the average service life estimate changes, the new service life is merely substituted for the old. Under the customary use of the whole-life technique, no attempt is made to adjust the new accrual rate for aberrations in past life estimates. The life used in the whole-life technique should be reviewed periodically for changes to minimize accumulation of excesses or deficiencies in recovery.

The Remaining-Life Technique. The remaining-life technique spreads the unrecovered cost of plant over the estimated remaining years of life of the plant, and may be used with item or group procedures. Spreading the unrecovered cost over the estimated remaining years of life tends to eliminate estimated deficits or excesses in the depreciation reserve, which may occur in the case of the whole-life technique because of

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variations in life estimates, changes in depreciation systems used, and extraneous entries to the reserve. The amount of deficits or excesses, if any, in the reserve is always a controversial matter and constitutes an estimate, at best. Use of the remaining-life technique does not eliminate the need for periodic review of the life estimate in use. In general, the better the life estimates, the better the results obtained with any depreciation practice. The remaining-life technique, however, is well adapted to changing the depreciation rate sufficiently in the right direction to adjust for the so-called excesses or deficiencies in depreciation reserves.

Location-Life Basis; Total-Life Basis. The cost of a unit of property usually consists of the cost of material plus the cost of installation. Frequently, the material or equipment may be removed from one location and, if it is in good condition, reinstalled in another location. For example, a piece of equipment may serve for a few years and exhaust most of its service potential in a state-of-the-art research laboratory, then move to a classroom laboratory. The location-life is, obviously, the period in which it remained in one location. The installation costs must be on a location-life basis, since they cannot be moved. The total-life of the material or equipment is the sum of the location-lives. Most depreciation systems use the location-life basis for the greater portion of the plant.

Procedures

In addition to the combinations of depreciation methods and techniques, several procedures may be used. The nature of the procedure varies with the form of depreciable base used. The type of base may range from a single item or unit of property to a broad group, encompassing units of similar but not identical characteristics having different life spans and installed over a range of years.

Item, or Individual-unit, Procedure: The item procedure is the simplest and most direct to use as far as the mechanics of

application of a depreciation method are concerned. Because of its simplicity, it is frequently used to demonstrate the mechanics of depreciation analysis. This sometimes results in an oversimplified impression of depreciation accounting.

The item procedure requires a specific record for each individual physical unit of depreciable plant on which the depreciation accruals, based on any of the several depreciation methods, are accumulated by each accounting period. Properly applied, it can realize to a greater extent than any other procedure the fundamental objective of recovering the cost of each unit of plant over its service life.

Equal-Life Group Procedure: The equal-life-group procedure overcomes the principal disadvantage of the unit procedure (voluminous records requirement) and still tends to realize the objective of recovering the cost of each element of plant during its service life. This is achieved through the use of a depreciable base segregated into groups of plant of equal-life expectancy. Since life expectancy is approximately uniform within this group, the entire group is considered to be retired at the same age as a unit. Hence, the equal-life group acts like, and may be depreciated as, a single item or unit.

It may not be practical to identify and directly subdivide property into groups of equal-life expectancy, with even large-scale modern computers. This may be done indirectly, however, through the use of plant life statistics, as reflected in the Iowa survivor curves, the Kimball survivor curves, and others.

The Vintage (Age) Group Procedure: Under the vintage-group procedure, the plant base is divided into individual installation vintages, for each of which an individual life estimate is developed. The individual lives are then used to develop a composite life for the entire group. This procedure, although somewhat simpler than the equal-life group procedure, does not relieve the long-lived units of the short-lived depreciation burden and is not in this respect substantially different from the broad-group procedure. The vintage group may be used as an intermediate step in applying the equal-life group procedure.

The Broad-Group Procedure: The broad-group procedure makes use of the average life of all the units within a group usually, but not necessarily, performing a similar function or belonging to the same class of service without regard to distinguishing characteristics within the group. Accrual deficiencies owing to early retirement of short-lived units are made up by accruals on other units that outlive the average life of the group. The greater simplicity of maintaining records makes the broad-group procedure one of the more practical for most classes of property where large numbers of units are involved.

In general, the broader the plant grouping used, the fewer the records required for depreciation purposes and the more complex the underlying concepts become. The item or individual-unit procedure, for example, is easily understood and most frequently used for illustration purposes. The broad-group procedure, on the other hand, requires a working knowledge of plant life statistical theory for proper application.

Sources: Kieso & Weygandt, *Intermediate Accounting* (5th edition), 1986; American Gas Association and Edison Electric Institute, *An Introduction to Depreciation of Public Utility Plant and Plant of Other Industries*, 1975.

Illustrations of Broad Group Procedure

Many nonprofit organizations may not have the detailed records or the clerical staff to support the item-by-item, equal-life group or vintage (age) group procedures. Furthermore, parts of their plants may be dedicated to single uses, after which all the contents would be renewed. For these institutions, the broad-group procedure may have a great deal of appeal. What follows is a discussion of various broad grouping choices.

Vertical. In a vertical grouping, the major asset categories are kept separate from one another and depreciated using a level of detail within the category that the organization believes is the most desirable.

Examples:

Buildings	*Equipment*	*Art (or Other) Collections, Hist. Treasures*
All buildings combined	All equipment combined	All objects combined
By building	By individual equipment	By individual object
By building type	By equipment type	By object type
By subsystem	By dollar range	By collection
By subsystem within building	By type within location	By object type within location
By location	By location	By location
By department or cost center	By department or cost center	By department or cost center
By building age/range	By equipment age/range	By object age/range
By floor, wing, etc.	Other	Other
Other		

Who might choose this approach?

- Organizations with records that are adequate enough to support this level of detail
- Organizations requesting detailed asset appraisals
- Organizations wishing to develop or maintain a detailed fixed asset and/or budget system
- Organizations whose needs or plans require a certain level of detail (for instance, a subsystem within building for federal cost recoveries or development of replacement schedules, by individual object to facilitate preparation of insurance schedules)

Advantages:

- Better level of detail
- Uses traditional balance sheet accounts
- Facilitates cost allocation to departments, etc.

Disadvantages:

- More costly to maintain

Horizontal. In a horizontal grouping, the major asset categories are brought together in different combinations based on criteria (for instance, location) that cross between or among categories.

Examples:

By building or building type (for instance, academic, medical, research/laboratory, residential, exhibition/entertainment), *including* equipment, collections, and other contents.

Case 1: a hospital building and all contents

Case 2: a group of college dormitories and all contents

By department, cost center, or location (for instance, branch office, branch campus, city, address), including all buildings and building contents at the department, location. etc.

Case 1: the downtown branch of a hospital

Case 2: all assets assigned to the anthropology department at a college

By type of equipment (for instance, vehicles, power plant, tools/machines, furniture, scientific/medical equipment, athletic equipment), *including* the building in which the equipment is located.

Case 1: a college power plant and the building within which it is housed

Case 2: scientific/medical equipment and the building within which it is located

By collection or object type, *including* the building in which the collection or object type is located *and* all equipment within the building.

Case 1: a species of animal in a zoo, including the building and equipment used for that species

Case 2: a collection of art objects, including the building and equipment related to that collection

Who might choose this approach?

- Organizations needing an appraisal of assets and willing to accept less detail
- Organizations desiring a macro approach to the *retroactive* accumulated depreciation calculation, even if a more detailed fixed asset/budget system is planned for the future
- Organizations that have cost centers established by location, building, collection, etc.

Advantages:

- Simpler, especially for the retroactive calculation of accumulated depreciation
- Probably less costly for organizations without detailed records

Disadvantages:

- Later development of detailed fixed-asset system, if desired, may be more costly than doing it now
- Less detail may prevent organization from obtaining federal cost recoveries, etc.

Combination. Use of a combined approach would utilize vertical groupings for some assets and horizontal groupings for others.

Examples:

By building or building type, including equipment; collections, etc., are treated separately.

Case 1: a museum with unique art or other objects needing separate identification, with buildings and equipment assuming a minor role

Equipment and collections are combined into one or more horizontal groups; buildings or building types are treated separately.

Case 1: a small college with one building in use and several others under construction

Who might choose this approach?

- Organizations with detailed records for some asset categories, incomplete records for others
- Organizations with one asset or asset group representing a significant percentage of the total dollar value of long-lived assets

Advantages:

- Uses the best features of the vertical and horizontal approaches
- Provides more/less detail in response to the organization's needs

Disadvantages:

- Delays or prevents development of a complete fixed-asset system
- May be more inconvenient/costly than complete adoption of *either* of the other two approaches

APPENDIX D

Appraisal and Valuation Services

Nonprofit institutions may consider appraisal and valuation services for insurance and federal recovery purposes as well as for financial reporting. These services need not require an exhaustive survey of every asset at the institution, and they may involve the employees as well as consultants. In general, there are at least seven options to determine the original cost of long-lived assets:

1. *Existing property records* may be used if they are complete, contain proper asset classifications and vintages, have been prepared under reasonable capitalization policies, and are in a usable format.
2. *Existing insurance records* may be more detailed and could serve as an alternative.
3. *Existing reimbursement records* may be adequate as well.
4. *A detailed appraisal inventory* may be required in certain cases, particularly when property records are inadequate. Such an inventory might involve:
   a. listing and inventorying the appropriate assets,
   b. determining the cost of reproduction new (CRN) by means of computerized coding and pricing systems,
   c. determining the acquisition date,
   d. estimating observed and theoretical depreciation,
   e. calculating the cost of reproduction cost new, less depreciation (CRNLD) and from this and guideline lives, the remaining life (fair market value or CRNLD divided by replacement cost new times the guideline life equals the remaining life),
   f. trending the CRN back to original cost using building and equipment indexes,
   g. cross-checking with invoices,
   h. reconciliating to the books and records, and
   i. preparing a property accounting procedure.

5. *Appraisal modeling* from a representative sample of buildings and their contents may be an acceptable substitute for the full inventory described above. The sample would be projected on the basis of CRN per square foot. Equipment might be sampled as well.
6. *Training in-house personnel* is a cost-effective way to perform the appraisal or model above. The key to success with this method is training and supervision of in-house appraisers.

The tables that follow may be useful in evaluating appraisal services.

EXHIBIT D-1
Appraisal Modeling and Field Procedures

A. Major Accounts
- Buildings
- Land improvements
- Fixed equipment
- Machinery and equipment
- Furniture

B. Buildings and Land Improvements
1. Facility classifications
   - Dormitory
   - Library
   - Gymnasium
   - Hospital
   - Laboratories
   - Chapel
   - Classrooms/lecture halls
   - Fellowship halls
   - Auditorium
   - Office/administration
   - Residences
   - Boiler house
   - Parking garage

- Theaters
- Other

2. Building Number
3. Zip Code
   - Computerized geographic indexes
4. Construction classification
   - Wood frame
   - Masonry exterior walls, wood floors, and roof
   - Preengineered steel frame
   - Steel frame
   - Fireproofed steel frame
   - Reinforced concrete frame
5. Number of stories
6. Gross square footage
7. Construction quality

— Economy	1.0
— Average	2.0
— Superior	3.0

8. Year built
9. Effective age
10. Building condition
    - Excellent
    - Good
    - Average
    - Poor
11. Special facilities and additions and land improvements
12. Cost of reproduction new (CRN)
13. Cost of reproduction cost new less depreciation (CRNLD)
14. Estimated useful life
15. Estimated original cost

1.18

EXHIBIT D-1 (*cont.*)

C. Fixed Equipment, Machinery and Equipment, Furniture

1. Property class codes
   - — Desks
   - — Tables
   - — Chairs
   - — File cabinets
   - — Typewriters
   - — Cafeteria equipment
   - — Audio visual equipment
   - — Etc.
2. Quantity
3. Facility classifications
   - — Dormitory
   - — Library
   - — Classrooms/lecture halls
   - — Etc.
4. Building number
5. Department number
   - — Common area of dormitory
   - — Engineering lab
   - — Etc.
6. Floor
7. Model number, serial number, manufacturer, and tag number of speciality equipment
8. Observed depreciation
9. Aggregate acquisition date and estimated weighted age
10. Cost of reproduction new (CRN)
11. Cost of reproduction new less depreciation (CRNLD)
12. Estimated useful life
13. Orignal cost

EXHIBIT D-2
Nonprofit Institutions
Representative Normal Lives

Property Category	Range in Years
Buildings	
— Structure/shell	25–60
— Plumbing/sewers	15–35
— Heating, air conditioning, and ventilation	15–30
— Electrical	10–30
— Sprinkler system	20–40
— Roofing	10–20
— Interior finishes	5–20
Land improvements	5–[illegible]
Furniture	5–[illegible]0
Fixed equipment	5–20
Mechanical equipment	5–15
Technical/lab equipment	3–8

Note: Manufacturers' Appraisal Company, with NACUBO, is conducting a study of useful lives at colleges and universities.

EXHIBIT D-3
Sample of Asset Classifications

Land Impovements
- Paving
- Fencing
- Athletic fields, tracks, and courts
- Lighting
- Sewerage
- Landscaping

Buildings
- Temporary and small buildings
- All other

EXHIBIT D-3 (*cont.*)

Building Service Equipment
- Elevators
- Emergency generators
- Heating plant, central
  - Boiler
  - Compressor
  - Fans
  - Heat exchange
  - Pumps
  - Tanks
  - Water treatment equipment
- Heating, ventilating, and air conditioning
  - Package air conditioner
  - Window air conditioner
  - Coils
  - Compressor
  - Condenser
  - Air dryer
  - Fans
  - Air handler
  - Unit heater
  - Domestic water heater
  - Water heater and converter
  - Under window induction unit
  - Pumps
  - Refrigeration machines
  - Water treatment equipment
  - Cooling tower
  - Air washer
- Fire protection and alarm system
  - Alarm systems
  - Compressors
  - Fire extinguishers
  - Fire detection systems
  - Fire pumps
- Miscellaneous building service equipment
  - Central clock system

Incinerator
Water coolers

Furniture and Fixtures
Desks—office
classroom
Chairs—office—upholstered
office—other
classroom
Carrels
Files
Library furniture
Laboratory furniture
Tables
Occasional
Office
Classroom
Folding
Sofas/settees
Other
Chalk boards/bulletin boards
Bookcases
Cabinets/display cases
Component wall storage systems
Landscape partitions
Carpeting
Credenzas
Safes
Miscellaneous—clocks, cots, globes, lecterns, lamps, maps, planters, outdoor furnishings, and coat racks

Office Mechanical Equipment
Adding machines
Calculators—electronic
electric
Dictating/transcribing equipment
Electronic data processing equipment
Mail room equipment
Microfilm equipment

EXHIBIT D-3 (*cont.*)

- Typewriters—manual
  electric
- Bookkeeping/accounting machines
- Cash registers
- Printing equipment
- Copying/duplication
- Other—collators, book detection systems, joggers, check protectors and writers, paper shredders, automatic sorters, electric staplers

Audio Visual Equipment
- Audio tape equipment
- AV carts
- Classroom video equipment
- Darkroom/film processing equipment
- Language lab
- Phonographs/turntables
- Photogaphic equipment
- Projection equipment
- Radio/TV production equipment
- Projection screens
- Other—lights, loudspeakers, microphones, public address systems, amplifiers

Appliances (See also cafeteria equipment)
- Washers and dryers
- Refrigerators
- Ranges and ovens
- Small appliances—blenders, dehumidifiers, fans, heaters, irons, sewing machines

Cafeteria Equipment
- Cooking and processing—cutters, fryers, grinders, steam kettles, mixers, ovens, peelers, ranges, and saws
- Dishwashing
- Food service—display cases, coffeemaker, condiment stand, dispensers, lowerators, serving lines, steam tables, toasters

- Stainless steel kitchen furniture
- Storage—freezers, refrigerators, ice making equipment, walk-in coolers, and freezers
- Other—fire extinguisher systems, carts/cabinets—hot and cold, garbage disposal equipment, hoods, racks, scales, and shelving

Laboratory Equipment
- Meters and other electrical test equipment
- Microscopes
- Other

Athletic Equipment
- Archery
- Baseball
- Basketball
- Dance
- Exercise and weight lifting
- Football
- Gymnastics
- Racket sports
- Swimming and diving
- Soccer
- Softball
- Table tennis
- Track
- Volleyball
- Wrestling
- Miscellaneous—physical education and recreation—bike racks and playground equipment
- Health and therapy equipment
- Fixtures and equipment—bleachers, lockers, pool equipment, and scoreboards

Stage and Auditorium
- Auditorium/theater/lecture hall seating
- Lighting and controls
- Risers/platforms/portable stages
- Sound equipment
- Miscellaneous—drapery/curtains, portable lighting, acoustical shells, and props

EXHIBIT D-3 (*cont.*)

Music Instruments and Accessories
- Brass
- Electronic
- Keyboard
- Percussion
- Strings
- Woodwinds
- Music room furniture and fixtures

Tools and Machinery
- Janitorial equipment
  - Floor care
  - Other—carts, ladders, and scaffolds

Machinery Tools
- Welders
- Drills
- Auto shop equipment
- Grinders/buffers
- Lathes
- Metal working machinery
- Milling machines
- Sanders/jointers/planers
- Saws
- Other

Arts and crafts
- Ceramics equipment
- Jewelry/lapidary equipment
- Sculpturing equipment
- Weaving equipment
- Printing equipment
- Other

Mobile equipment
- Automobiles
- Buses
- Trucks
- Tractors (farm type)

Trailers
Forklifts
Pallet lifts
Grounds equipment—mowers, plows, rollers, seeders, snow blowers, sprinklers, lawn tractors, wheelbarrows
Construction equipment—backhoe, ditch digger, bucket loader, and concrete mixer

EXHIBIT D-4
Colleges and Universities Sample Cost Ranges 1987

Type	Description	Class	Cost Range per Sq. m.*	Cost Range per Sq. ft.	Average Cost heating and/or cooling Sq. m.	Average Cost heating and/or cooling Sq. ft.	Average cost per Sq. m.	Average cost per Cu. ft.	Average cost per Sq. ft.
Science	Buildings with a large amount of laboratory space and plumbing	A & B	$699.12–1,178.12	$64.95–109.45	$139.93	$13.00	$902.02	$8.38	$83.80
		C,D, & S	610.86–1,044.65	56.75–97.05	106.03	9.85	719.04	6.68	66.80
Arts	Large studios or work areas, fine arts, crafts, dramatic arts, music	A & B	665.22–931.62	61.80–86.55	134.55	12.50	784.70	7.29	72.90
		C,D, & S	550.58–814.30	51.15–75.65	91.49	8.50	667.37	6.20	62.00
Classrooms	Buildings divided primarily into classrooms and faculty offices	A & B	642.61–978.99	59.70–90.95	156.08	14.50	789.00	7.33	73.30
		C,D, & S	531.20–855.20	49.35–79.45	96.88	9.00	671.14	6.24	62.35

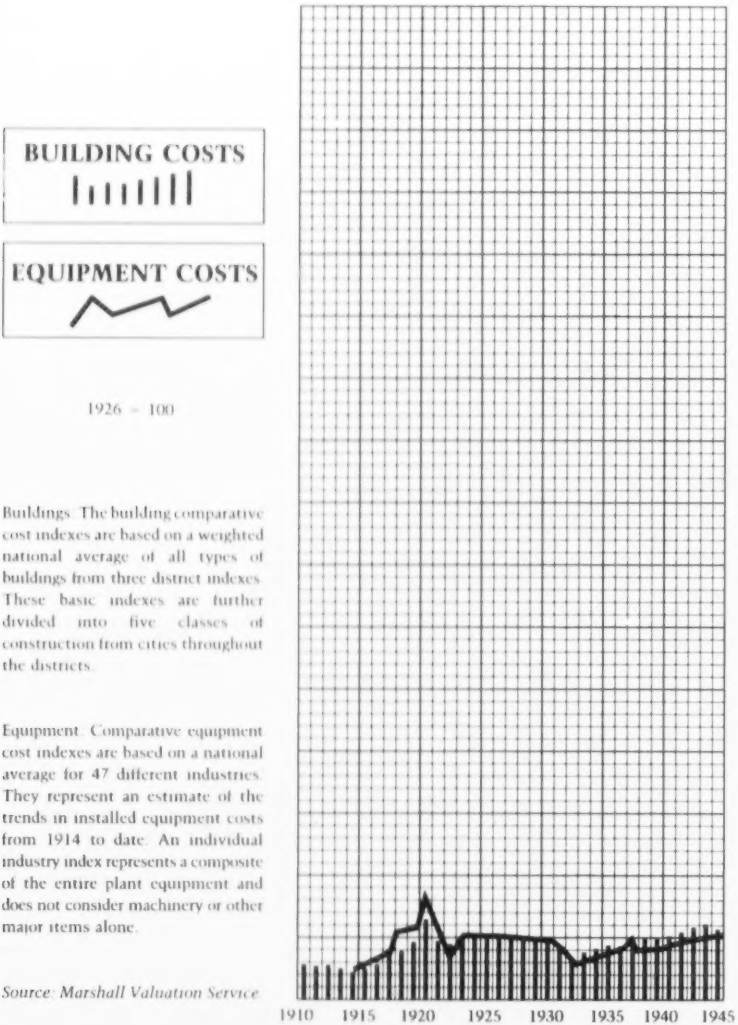
Lecture halls	Small auditoriums, offices and classrooms, including fixed seating	All	644.76–942.39	59.90–87.55	104.95	9.75	777.16	7.22	72.20
Gymnasiums physical education	Buildings with gymnasium, classrooms, offices, and locker rooms, not including swim pools	All	515.06–807.30	47.85–75.00	75.35	7.00	642.61	5.97	59.70
Commons	Student activities center	All	592.56–1,018.27	55.05–94.60	100.11	9.30	772.32	7.18	71.75
College	Complete college in one building	All	642.07–895.03	59.65–83.15	126.48	11.75	756.17	7.03	70.25

Note: The table above contains normal cost ranges and averages, exclusive of extremes, of various types of college buildings. Costs do not include elevators, escalators, or dumbwaiters, but do include other fixed equipment. Costs are subject to the standard adjustments and refinements for the calculator method. Add 5 percent for each story over three for multistory buildings. The average (median) building costs include the average cost for heating and/or cooling.

*Sq. m = Square meter.

Source: Marshall Valuation Service, Marshall and Swift Publication Co., 1987.

EXHIBIT D-5
Comparative Building and Equipment Costs
National Averages of All Types of Buildings and Equipment
(January 1987)



Buildings. The building comparative cost indexes are based on a weighted national average of all types of buildings from three district indexes. These basic indexes are further divided into five classes of construction from cities throughout the districts.

Equipment. Comparative equipment cost indexes are based on a national average for 47 different industries. They represent an estimate of the trends in installed equipment costs from 1914 to date. An individual industry index represents a composite of the entire plant equipment and does not consider machinery or other major items alone.

Source: Marshall Valuation Service

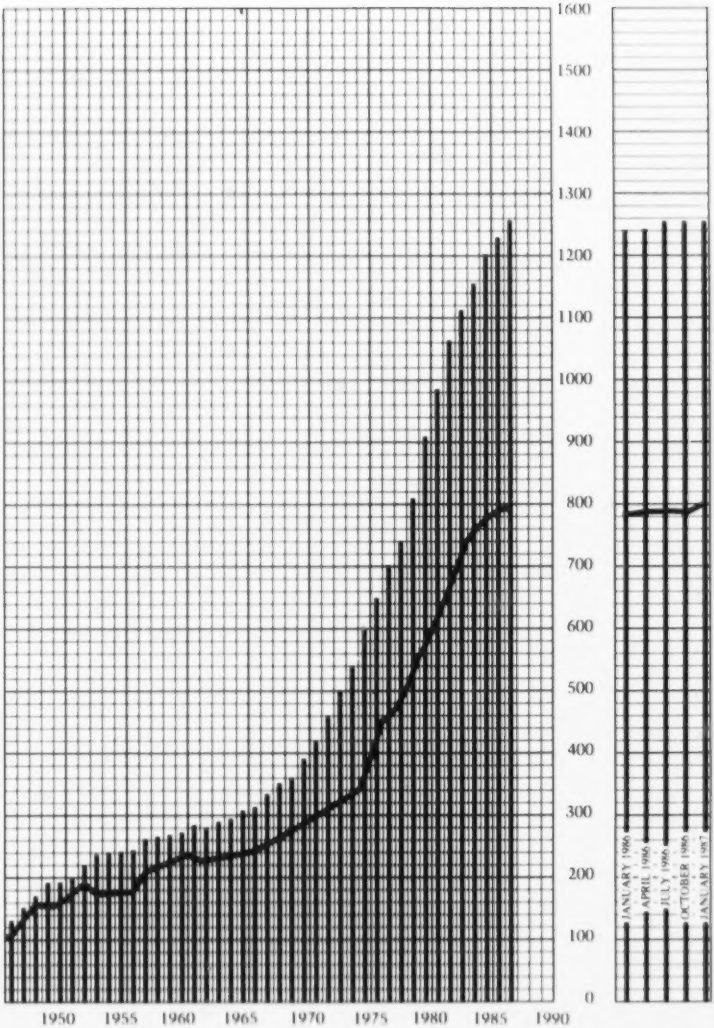

1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
JANUARY 1966
APRIL 1966
JULY 1966
OCTOBER 1966
JANUARY 1967

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EXHIBIT D-6
Depreciation—Commerical Properties

Effective Age in Years	Typical Life Expectancy in Years									
	70	60	55	50	45	40	35	30	25	20
	Depreciation—Percentage									
1	0	0	0	0	1	1	1	2	2	3
2	0	1	1	1	1	2	2	3	5	7
3	0	1	1	1	2	3	4	5	7	10
4	1	1	1	2	3	4	5	7	10	14
5	1	1	2	3	4	5	6	9	13	18
6	1	2	2	3	4	6	8	11	16	22
7	1	2	3	4	5	7	10	14	19	26
8	1	2	3	5	6	8	11	16	22	30
9	2	3	4	5	7	10	13	18	25	35
10	2	3	4	6	8	11	15	21	29	40
11	2	4	5	7	9	13	17	24	32	45
12	2	4	6	8	10	14	19	26	36	50
13	2	5	6	9	12	16	22	29	40	55
14	3	5	7	10	13	18	24	32	44	60
15	3	6	8	11	14	20	26	35	48	65
16	3	7	9	12	16	22	28	39	52	69
17	4	7	10	13	18	24	31	42	56	73
18	4	8	11	14	19	26	34	46	60	76
19	4	9	12	16	21	28	36	49	64	78
20	5	9	13	17	23	30	39	53	68	79
21	5	10	14	18	25	32	42	57	71	80
22	6	11	15	20	27	35	45	60	73	
23	6	12	16	21	29	37	48	63	75	
24	7	13	17	23	31	40	52	66	77	
25	7	14	19	25	33	43	55	69	79	
26	8	15	20	27	35	46	58	72	80	
27	9	16	21	28	37	49	61	75		
28	9	17	23	30	40	52	64	77		
29	10	18	24	32	42	54	68	78		
30	11	20	26	34	45	57	72	79		
32	13	22	30	38	50	62	75	80		
34	15	25	34	43	55	68	77			
36	17	28	38	48	61	73	79			
38	19	32	42	53	67	77	80			
40	21	35	46	59	72	79				
42	25	39	51	65	75	80				
44	28	43	56	70	77					
46	31	48	60	74	78					
48	34	53	64	77	79					
50	38	58	68	79	80					
55	48	67	75	80						
60	57	74	78							
65	65	78	80							
70	71	80								
75	75									
80	78									

Source: Marshall Valuation Service

PROPERTIES INCLUDED

Section 11 All apartments, hotels, resorts
Section 12 Motels, large multiples
Section 13 All
Section 14 All
Section 15 Banks, offices, medical buildings, hospitals, dispensaries, clinics, veterinary hospitals, governmental buildings
Section 16 All except churches and fraternal buildings
Section 17 All commercial and industrial uses
Section 64 All commercial and industrial uses

Effective Age in Years	Typical Life Expectancy in Years									
	70	60	55	50	45	40	35	30	25	20
	Remaining Life Expectancy—Years									
1	69	59	54	49	44	39	34	29	24	19
2	68	58	53	48	43	38	33	28	23	18
3	67	57	52	47	42	37	32	27	22	17
4	66	56	51	46	41	36	31	26	21	16
5	65	55	50	45	40	35	30	25	20	15
6	64	54	49	44	39	34	29	24	19	14
7	63	53	48	43	38	33	28	23	18	13
8	62	52	47	42	37	32	27	22	17	12
9	61	51	46	41	36	31	26	21	16	11
10	60	50	45	40	35	30	25	20	15	10
11	59	49	44	39	34	29	24	19	14	9
12	58	48	43	38	33	28	23	18	13	8
13	57	47	42	37	32	27	22	17	12	7
14	56	46	41	36	31	26	21	16	11	6
15	55	45	40	35	30	25	20	15	10	5
16	54	44	39	34	29	24	19	14	9	4
17	53	43	38	33	28	23	18	13	8	4
18	52	42	37	32	27	22	17	12	7	3
19	51	41	36	31	26	21	16	11	6	2
20	50	40	35	30	25	20	15	10	5	2
21	49	39	34	29	24	19	14	9	5	2
22	48	38	33	28	23	18	13	8	4	
23	47	37	32	27	22	17	12	7	3	
24	46	36	31	26	21	16	11	6	3	
25	45	35	30	25	20	15	10	6	2	
26	44	34	29	24	19	14	9	5	2	
27	43	33	28	23	18	13	8	4		
28	42	32	27	22	17	12	7	4		
29	41	31	26	21	16	11	7	3		
30	40	30	25	20	15	10	6	3		
32	38	28	23	18	13	8	5	2		
34	36	26	21	16	11	7	4			
36	34	24	19	14	10	6	3			
38	32	22	17	12	8	5	2			
40	30	20	15	10	7	4				
42	28	18	13	9	6	3				
44	26	16	12	8	5					
46	24	14	10	7	4					
48	22	13	9	6	3					
50	20	11	8	5	3					
55	16	8	6	3						
60	12	6	4							
65	9	4	3							
70	7	3								
75	5									
80	4									

EXHIBIT D-7
Depreciation—Fixtures and Equipment

Normal Depreciation—Percentage

Effective Age in Years	Typical Life Expectancy in Years							
	30	25	20	15	12	10	8	5
1	2	2	3	5	6	8	10	15
2	3	5	7	10	13	16	21	31
3	5	7	10	15	20	24	33	48
4	7	10	14	21	27	33	46	66
5	9	13	18	27	34	42	57	77
6	11	16	22	32	42	51	67	82
7	14	19	26	38	50	61	74	
8	16	22	30	45	57	70	78	
9	18	25	35	51	64	76	80	
10	21	29	40	57	71	79		
11	24	32	45	63	76	80		
12	26	36	50	69	78			
13	29	40	55	74	80			
14	32	44	60	77				
15	35	48	65	79				
16	39	52	69	80				
17	42	56	73					
18	46	61	76					
19	49	66	78					
20	53	70	79					
22	60	74						
24	66	77						
26	72	79						
28	77							
30	79							
32	80							

Note. These tables are furnished primarily for the experienced equipment appraiser who has knowledge of the normal lives of fixtures and equipment, as a check against other methods of determination of the total depreciation of equipment.

Effective Age in Years	Remaining Life—Years Typical Life Expectancy in Years							
	30	25	20	15	12	10	8	5
1	29	24	19	14	11	9	7	4
2	28	23	18	13	10	8	6	3
3	27	22	17	12	9	7	5	2
4	26	21	16	11	8	6	4	1
5	25	20	15	10	7	5	3	1
6	24	19	14	9	6	4	2	1
7	23	18	13	8	5	3	1	
8	22	17	12	7	4	2	1	
9	21	16	11	6	3	1	1	
10	20	15	10	5	2	1		
11	19	14	9	4	2	1		
12	18	13	8	3	1			
13	17	12	7	3	1			
14	16	11	6	2				
15	15	10	5	1				
16	14	9	4	1				
17	13	8	4					
18	12	7	3					
19	11	6	2					
20	10	5	2					
22	8	4						
24	6	3						
26	5	2						
28	4							
30	3							
32	2							

Note: These tables are based on actual cases of sales and mortality to which mathematical curves have been matched. They are averages and as such must be used with care using effective age modifying for above- or below-normal wear and tear.

EXHIBIT D-8
Salvage Value

Airplane mfg	10%	Clay products	7%
Apartment	10%	Construction equip.	14%
Bakery	10%	Creamery—dairy	11%
Bank	10%	Dwelling	12%
Bottling	10%	Elec. equip. mfg	10%
Brewery, distillery	8%	Elec. power equip.	10%
Candy, conf.	10%	Flour, cereal, feed	8%
Cannery—fish	8%	Garage	10%
Cannery—fruit	8%	Glass mfg	8%
Cement mfg	8%	Hospital	12%
Chemicals	6%	Hotel	10%
Church	10%	Laundry—dry cleaning	10%
Library	10%	Restaurant	14%
Logging equip.	10%	Rubber	9%
Metal working	12%	School	10%
Mining, milling	8%	Sewage disposal (city)	7%
Motion picture	12%	Shipbuilding	9%
Office equipment	12%	Steam power	10%
Oil refining	7%	Store	10%
Packing—meat	7%	Textile	8%
Paint mfg	7%	Theater	12%
Paper mfg	7%	Warehousing	10%
Printing	10%	Waterworks, city	6%
Refrigerating	8%	Woodworking	10%

Note: This table lists average salvage value of all equipment and fixtures by industry. Thus, all the equipment in a bakery, taken as a whole, might be expected to have a 10 percent salvage value when fully depreciated.

EXHIBIT D-9
Life Expectancy Guidelines
Typical Building Lives

Occupancy	Class	A	B	C	D	S
Section 15, Banks, Offices, and Public Buildings						
Good and excellent offices, banks, libraries		60	60	55	50	50
Average offices, banks, and libraries		55	55	50	45	45
Low-cost offices, banks, and libraries		50	50	45	40	40
Good and excellent medical offices		50	50	45	40	40
Average and low-cost medical offices		45	45	40	35	35
Good and excellent governmental buildings		60	60	55	50	...
Average and low-cost governmental buildings		55	55	50	40	40
Good and excellent general hospitals		50	50	45	40	...
Average and low-cost general hospitals		45	45	40	35	35
Good and excellent convalescent hospitals		50	50	45	40	...
Average and low-cost convalescent hospitals		45	45	40	35	35
Average and good dispensaries		...	...	35	30	30
Good and excellent jails		55	55	45	...	...
Average and low-cost jails		50	50	40	...	...
Good and excellent fire stations		50	50	45	40	40
Average and low-cost fire stations		45	45	40	35	35
Average and good veterinary hospitals		45	45	40	35	35
Low-cost veterinary hospitals		...	...	35	30	30
Elementary and Secondary Schools						
Good school plants		50	50	45	40	...
Average school plants		45	45	45	40	...
Low-cost school plants		...	...	40	35	...
Good and excellent classrooms		50	50	45	40	40
Low-cost and average classrooms		45	45	40	35	35
Cheap classrooms		...	...	35	30	30
Good and average gymnasiums		45	45	40	35	35
Good and average multipurpose, manual arts		45	45	40	35	35
Low-cost multipurpose, manual arts		...	...	35	30	30
Average shower building		...	...	30	25	25
Good and excellent day care centers		...	...	45	40	...
Average day care centers		...	...	40	35	35
Low-cost day care centers		...	...	40	35	...
Relocatable classrooms		...	...	...	10	...
Colleges and Universities						
Good and excellent buildings		60	60	50	45	45
Average buildings		50	50	45	40	40
Low-cost buildings		...	...	40	35	35

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EXHIBIT D-9 (*cont.*)

Occupancy	Class	A	B	C	D	S
Section 16, Churches, Theaters, and Auditoriums						
Excellent church		60	60	60	50	...
Good church		60	60	50	45	...
Average church		50	50	45	40	40
Low-cost and cheap churches		...	...	40	35	35
Excellent auditorium		55	55	50	45	...
Good and average auditorium		50	50	45	40	40
Low-cost auditorium		...	...	40	35	35
Good and excellent theater		50	50	45	40	...
Average and fair theaters		45	45	40	35	35
Low-cost and cheap theaters		...	...	35	30	30
Excellent fraternal		...	...	50	45	...
Good fraternal		50	50	45	40	...
Average fraternal		45	45	40	35	35
Low-cost fraternal		...	...	35	30	30
Good bowling alleys		...	...	40	35	35
Low-cost average bowling alleys		...	...	35	30	30
Good skating rink and tennis clubs		...	...	45	40	40
Average skating rink and tennis clubs		...	...	40	35	35
Low-cost skating rink and tennis clubs		...	...	35	30	30
Good handball racquetball clubs		...	...	45	40	40
Average handball racquetball clubs		...	...	40	35	35
Section 17, Sheds, Farm and Lumberyard Buildings						
Good creameries		...	...	45	...	45
Average creameries		45	45	35	...	30
Low-cost creameries		...	...	25	...	20
Grain elevator facilities		...	60	...	55	...
Grain storage buildings		...	...	...	30	30
Good and excellent dairies		...	...	35	30	30
Average dairies and fruit packing buildings		...	...	30	25	25
Low-cost dairies		...	...	20	20	15
Bulk fertilizer storage		...	...	...	30	30
Excellent barns and stables		...	...	40	...	35
Good barns and stables		...	...	35	30	30
Average barns, hog barns, stables, and silos		...	...	30	25	25
Low-cost barns and stables		...	...	20	15	15
Good potato storage and farm labor housing		...	...	30	25	25
Average potato storage and farm labor housing		...	...	25	20	20
Low-cost potato storage and transient labor buildings		...	...	20	15	15

Excellent poultry houses	30	25	25
Good poultry houses, equipment, and utility sheds	25	20	20
Average poultry, equipment, and utility buildings	20	15	15
Low-cost poultry houses	15	15	15
Tobacco barns	20	20	15
Good lumberyard buildings	30	25	25
Average lumberyard buildings	25	20	20
Low-cost lumberyard buildings	20	15	15
Miscellaneous sheds and outbuildings	10 to 15 years		
Section 64, Miscellaneous Buildings			
Good and excellent service stations	25	...	25
Average service stations	20	...	20
Low-cost service stations	15	15	15
Good automatic car washes	30	25	30
Average automatic car washes	25	20	25
Low-cost automatic car washes	20	20	20
Good drive-thru car washes	30	25	30
Average drive-thru, self-serve car washes	25	20	25
Low-cost drive-thru, self-serve car washes	20	15	20
Good greenhouses	...	30	40
Average lath and greenhouses	...	20	25
Low-cost lath greenhouses	...	10	15

Source: Marshall Valuation Service.

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EXHIBIT D-10
Classes of Construction

Class	Frame	Floor	Roof	Walls
A	Structural steel columns and beams, fireproofed with masonry, concrete, plaster, or other incombustible material	Concrete or concrete on steel deck, fireproofed	Formed concrete, precast slabs, concrete or gypsum on steel deck, fireproofed	Nonbearing curtain walls, masonry, concrete, metal and glass panels, stone
B	Reinforced concrete columns and beams, fire-resistant construction	Concrete or concrete on steel deck, fireproofed	Formed concrete, precast slabs, concrete or gypsum on steel deck, fireproofed	Nonbearing curtain walls, masonry, concrete, metal and glass panels, stone

C	Masonry or concrete load-bearing walls with or without pilasters; masonry or concete walls with steel, wood, or concrete frame	Wood or concrete plank on steel floor joists, or concrete slab on grade	Wood or steel joists with wood or steel deck; concrete plank	Brick, concrete block, or tile masonry tilt-up, formed concrete, curtain walls
D	Wood or steel studs in bearing wall, wood frame, primarily combustible construction	Wood or steel floor joists or concrete slab on grade	Wood or steel joists with wood or steel deck	Almost any material except masonry or concrete; generally combustible construction
S	Metal bents, columns, girders, purlins and girts without fireproofing, incombustible construction	Wood or steel deck on steel floor joists, or concrete slab on grade	Steel or wood deck on steel joists	Metal skin or sandwich panels; generally incombustible

Source: Marshall Valuation Service.

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